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Curriculum of

CRITICAL CARE EMERGENCY DEPARTMENT NURSE EDUCATION PROGRAM

Edition I

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University of Massachusetts
[illegible]

Virginia Curtin Capasso, R.N., M.S.N.
Editor

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To our fellow Emergency Department Nurses who are committed to the pursuit of excellence in Emergency Department Nursing practice.

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Critical-Care Emergency Department
Nurse Education Program

COURSE DESCRIPTION

The Critical-Care Emergency Department Nurse Education Program (CEDNEP) is a 137.5 hour program. The program consists of 97.5 hours of lectures and 40 hours of clinical experience. The lectures address the following topics: 1) normal anatomy and physiology, 2) the clinical profiles of individuals who have dysfunction of one or more body systems, and 3) the nursing care of these individuals, in terms of treatment procedures, monitoring, patient/family education and psychosocial support. The clinical component includes 16 hours of Advanced Cardiac Life Support Provider or Instructor training, 16 hours of ambulance observation experience, and eight hours of observation experience in a trauma center, spinal cord injury unit, or burn unit.

Critical-Care Emergency Department
Nurse Education Program

PURPOSE

The purpose of CEDNEP is to update and increase nurses' knowledge of the Emergency Medical Services Systems (EMSS), the specialty of emergency nursing, and the continuum of care for adults with critical illnesses or injuries.

#

Critical-Care Emergency Department
Nurse Education Program

COURSE OBJECTIVES

The nurse will perform an assessment of his/her Emergency Medical Service System and demonstrate an understanding of:

1. Elements of emergency medical services and the interaction of these services with other segments of the health care system.
2. Role of pre-hospital personnel
3. Procedures for radio communications
4. Transfer protocols and procedures
5. Hospital and community resources for the emergency client
6. Role of the Emergency Department nurse
7. State and community resources for client referral

At the completion of this course, the nurse will perform the following nursing activities for clients with life-threatening illness/injuries:

1. Appraise the severity of an illness/injury by conducting a client interview and episodic physical assessment.
2. Determine client's need for priority care and triage client accordingly.
3. Collect data on the overall health status of client by obtaining historical, physical assessment, radiological, and laboratory study data.
4. Establish a nursing diagnosis.
5. State priorities of care in order to promote optimal management of life-threatening episodes or situations.
6. Identify appropriate interventions directed toward stabilization of client's condition.
7. Use life-support equipment skillfully and safely.
8. Record and report client-care goals, medical and nursing interventions, and client outcomes to client's significant others, nursing, medical, paramedical, and other health care personnel, and clergy.
9. Evaluate medical/surgical interventions continually in order to determine their clinical effectiveness and modify or adopt client-care activities until the client is stabilized or transferred.
10. Construct client/family teaching plans in order to insure continuity of care.
11. Document a client summary in the patient record.
12. Write client referrals as applicable and required.
13. Identify the correct procedures for reporting client's incident/accident to the appropriate government or community agency.

Critical-Care Emergency Department
Nurse Education Program

COURSE OBJECTIVES

The nurse will perform these nursing activities for clients with the following dysfunctions:

1. H.E.E.N.T.
2. Neurological
3. Pulmonary
4. Cardiovascular/Peripheral Vascular
5. Gastrointestinal
6. Genito-Urinary
7. Orthopedic
8. Burns
9. Multiple Trauma
10. Psychosocial

#__________ Name______________________

Critical-Care Emergency Department Nurse Education Program

STUDENT PROFILE

CEDNEP Region ______________________________________

Program Date ______________________________________

CEDNEP Coordinator: ______________________________________

Name: ______________________________________
(Last) (First) (Middle)

Address: ______________________________________
(Street) (City)

____
(State) (Zip)

Home phone: ____________________

Age: ____________________

Sex: ____________________

Marital status: ____________________

Mass. Nsg. Reg. #: ____________________ S.S.#______________

Employer: ______________________________________

Address: ______________________________________
(Street) (City)

____
(State) (Zip)

Department: ______________________________________

Phone: ____________________

Position:
- [1] Staff Nurse
- [2] Head Nurse
- [3] Clinical Nurse Specialist
- [4] Nurse Educator
- [5] Charge Nurse
- [6] Nursing Supervisor
- [7] Nurse Practitioner
- [8] Other______________

Shift:
- [1] Day
- [2] Evening
- [3] Night
- [4] Rotating

Immediate Supervisor: ______________________________________

Title: ______________________________________

Basic nursing preparation:
[1] Diploma
[2] Associate's
[3] Baccalaureate
[4] Master's
[5] Other ______________________

Highest level of nursing education:
[1] Diploma
[2] Associate's
[3] Baccalaureate
[4] Master's
[5] Other ______________________

Continuing Education Programs attended:

____

____

____

____

Number of CEUs earned in last two years: ______________________

Number of these CEUs from critical care programs: ______________________

Personal objectives for attending CEDNEP:

____

____

____

____

____

Number of years employed in nursing: ______________________

Number of years employed in emergency nursing: ______________________

Duration of employment in present agency: ______________(Year/Month)

Duration of employment in present department: ______________(Year/Month)

Duration of employment in present position: ______________(Year/Month)

#__________ Name________________________

Are you certified as: (1) CPR Provider [1] Yes
[2] No
Date of certification expiration: ______/______ (Mo./Yr.)

(2) CPR Instructor: [1] Yes
[2] No
Date of Certification expiration: ______/______ (Mo./Yr.)

(3) ACLS Provider: [1] Yes
[2] No
Date of certification expiration: ______/______ (Mo./Yr.)

(4) ACLS Instructor: [1] Yes
[2] No
Date of certification expiration: ______/______ (Mo./Yr.)

(5) Emergency Medical Technician: [1] Yes
[2] No
Date of certification expiration: ______/______ (Mo./Yr.)

Are you a member of one or more of the following professional nursing organizations?

(1) ANA/MNA	[1] Yes	[2] No
(2) NLN/Mass. League for Nsg.	[1] Yes	[2] No
(3) EDNA	[1] Yes	[2] No
(4) AACN	[1] Yes	[2] No

(5) Other ____________________________

Do you subscribe to one or more of the following professional nursing journals?

(1) American Journal of Nursing	[1] Yes	[2] No
(2) Nursing '80	[1] Yes	[2] No
(3) RN	[1] Yes	[2] No
(4) Nursing Outlook	[1] Yes	[2] No
(5) Journal of Emergency Nursing	[1] Yes	[2] No
(6) Heart and Lung	[1] Yes	[2] No
(7) Critical Care Quarterly	[1] Yes	[2] No

(8) Other ____________________________

The following list includes situations in which emergency department nurses may utilize patient assessment and patient management skills. Please evaluate your experience in each of these areas by using the following scale. Circle the number which best describes your experience.

1) Much more experience than average ED nurse
2) Somewhat more experience than average ED nurse
3) About average experience for an ED nurse
4) Somewhat less experience than average ED nurse
5) Much less experience than average ED nurse

Cardiac emergencies including arrythmias and myocardial infarctions	1	2	3	4	5
Respiratory emergencies including drowning, chest trauma, and COPD	1	2	3	4	5
Neurological emergencies including seizures, head injuries, and stroke	1	2	3	4	5
Facial trauma, ocular and ear, nose, and throat emergencies	1	2	3	4	5
Abdominal emergencies including trauma, GI bleeding and Ob/Gyn	1	2	3	4	5
Orthopedic emergencies including bone, joint and soft tissue injuries, and amputations	1	2	3	4	5
Burn emergencies including fire, chemical, and electrical burns	1	2	3	4	5
Behavioral emergencies including substance abuse, overdoses, psychiatric emergencies	1	2	3	4	5

#__________ Name______________________

(For CEDNEP coordinator use only)

I. Quiz: Raw score: _______(100%)
Relative score: _______(10%)

II. Written Examination: Raw score: _______(100%)
Relative score: _______(10%)

III. Psychomotor Examination:

A. Multiple Trauma: Raw score: _______(100%)
Relative score: _______(10%)

B. Triage:
1) Interview: Raw score: _______(100%)
Relative score: _______(10%)

2) Documentation: Raw score: _______(100%)
Relative score: _______(10%)

IV. Attendance: [1] Satisfactory [2] Unsatisfactory

Number of days missed _______

V. Final score: Date: ___/___/___ _______(100%)
Revised score: Date: ___/___/___ _______(10%)

#__________ Name________________________

(For CEDNEP Coordinator use only)

Ambulance Experience

Name of service: ____________

Date(s) of experience: ___/___/___
___/___/___

Evaluation completed/returned: ______(✓)

Clinical Experience

Name of facility: __________

No. of hours: __________

Date: ___/___/___

Evaluation completed/returned: ______(✓)

Minicourse Outline/Bibliography

Raw score ______(100%)
Relative score: ______(10%)

A. Outline (50%)

1. Title ______(✓)
2. Topic ______(✓)
3. Objective ______(✓)
4. Discussion ______(✓)
5. Summary/Conclusion ______(✓)

B. Bibliography (50%)

1. Minimum 3 references ______(✓)
2. Less than 5 years old ______(✓)
3. Minimum 2 periodical references ______(✓)

Minicourse Presentation

Raw score: ______(100%)
Relative score: ______(10%)

A. Title ______(20%/2%)
B. Topic ______(20%/2%)
C. Statement of objective ______(20%/2%)
D. Discussion ______(20%/2%)
E. Summary/Conclusions ______(20%/2%)

(For CEDNEP Coordinator use only)

Re-Examination:

I. Written:

Date: ____/____/____
Raw Score: __________(100%)
Relative: __________(40%)

II. Psychomotor:

A. Multiple Trauma:

Date: ____/____/____

Raw Score: __________(100%)
Rel. Score: __________(10%)

B. Triage:

Date: ____/____/____

1) Interview:

Raw Score: __________(100%)
Rel. Score __________(10%)

2) Documentation:

Raw Score: __________(100%)
Rel. Score: __________(10%)

Name________________

MULTIPLE TRAUMA

Practical Examination

Raw Score: ______(100%) Relative Score: ______(10%)

Criteria:

Achieve a multiple trauma practical examination score of 100%, or 10% of the final grade, by meeting the following criteria:

a. Systematic assessment (40%)
b. Identification of injuries (20%)
c. Synthesis and presentation of the nursing care plan (40%)

I. General Assessment (10%)

A. Inspection ( )2.5%
1. Anatomical alignment
2. Obvious, visable injuries
3. Skin color

B. Analysis ( )2.5%
1. Analyze available history
2. Anticipate necessary intervention

C. Interview ( )2.5%
1. Mental status
a. speech
b. level of consciousness
c. orientation
2. Elicit history ( )2.5%
a. chief complaint
b. history of present illness
c. past medical history

II. Primary Assessment (10%)

A. Airway (look) ( )2.5%
B. Breathing (listen) ( )2.5%
C. Circulation (feel) ( )2.5%
D. Vital Signs BP____P____B____ ( )2.5%

III. Secondary Assessment (20%)

A. Head
1. H.E.E.N.T.
a. head ( )1%
1. hair
inspect
2. scalp
inspect
palpate

III. Secondary Assessment Cont'd

- 3. skull
  - inspect
  - palpate
- 4. face
  - inspect
  - palpate
- 5. skin
  - inspect
  - palpate
- b. eyes
  - inspect ( )1%
  - 1. eye brows
    - inspect
  - 2. eyelids
    - inspect
  - 3. sclera and conjunctivia
    - inspect
  - 4. cornea and lens
    - inspect
  - 5. iris
    - inspect
  - 6. pupils
    - inspect
- c. ears
  - inspect ( )1%
- d. nose
  - inspect ( )1%
  - palpate
- e. throat
  - 1. mouth ( )1%
    - inspect
  - 2. tongue
    - inspect ( )1%
  - 3. neck
    - inspect ( )1%
    - palpate

B. Thorax

- 1. Lung/thorax (anterior)
  - inspect ( )1%
  - palpate
  - auscultate
- 2. Heart
  - auscultate ( )1%

#________ Name________________________

III. Secondary Assessment Cont'd

C. Abdomen ( )1%
- inspect
- auscultate
- palpate

D. Pelvis & Perineum
1. Pelvis ( )1%
    - inspect
    - palpate
2. Perineum ( )1%
    - inspect
    - palpate

E. Extremities
1. Lower extremities ( )1%
    - inspect
    - palpate
2. Upper extremities
    - a. shoulder and clavicles ( )1%
        - inspect
        - palpate
    - b. arms ( )1%
        - inspect
        - palpate

F. Back (posterior)
1. Spinal column ( )1%
    - inspect
    - palpate
2. Thorax ( )1%
    - inspect
    - palpate
    - auscultate
3. Pelvis ( )1%
    - inspect
    - palpate

#__________ Name________________________

Critical-Care Emergency Department
Nurse Education Program

TRIAGE PRACTICAL

Raw Score __________(100%) Relative Score __________(10%)

I. Interview format

1. Chief complaint __________
2. Onset __________
3. Duration __________
4. Frequency __________
5. Quality __________
6. Quantity __________
7. Aggravating factors __________
8. Relieving factors __________
9. Significant past medical history __________

II. SOAP Note

Raw Score __________(100%) Relative Score __________(10%)

a. Subjective __________

1. Chief complaint __________( )
2. Onset __________( )
3. Duration __________( )
4. Frequency __________( )
5. Quality __________( )
6. Quantity __________( )
7. Aggravating factors __________( )
8. Relieving factors __________( )
9. Significant past medical history __________( )

b. Objective __________

1. Inspection findings __________( )
2. Palpation findings __________( )
3. Auscultation findings __________( )
4. Vital signs __________( )

c. Assessment __________

1. Nursing diagnosis __________( )

d. Plan __________

1. Dispostion __________( )
2. Treatment plan __________( )

#____________

Critical-Care Emergency Department
Nurse Education Program

COURSE EVALUATION

This questionnaire gives you an opportunity to express anonymously your views of this course and the way it was conducted. Indicate the response closest to your view by circling the appropriate description. Please return the completed form to the CEDNEP coordinator on the last class day.

1 = You strongly agree with the statement
2 = You agree more than you disagree with the statement
3 = You disagree more than you agree with the statement
4 = You strongly disagree with the statement

1.	The objectives for each class were made clear.	1	2	3	4
2.	Class time was well used.	1	2	3	4
3.	Challenging questions and problems for discussion were raised in class	4	3	2	1
4.	I felt free to ask questions or express my opinion.	1	2	3	4
5.	The class discussions encouraged students to think.	1	2	3	4
6.	The readings for the classes were generally valuable.	1	2	3	4
7.	The classes were well-organized and well-presented.	4	3	2	1
8.	The lecturers were qualified to handle the course material.	1	2	3	4

9. Overall, I would rate the classes as:

________ Excellent ____ Good __________ Satisfactory ____ Fair

10. Comments:

Critical-Care Emergency Department
Nurse Education Program

Course Evaluation

To help us in designing future CEDNEP courses, please complete this evaluation form. All of the lectures (as described in the course outline) are listed below. For each lecture, please rate 1) the relevance of the lecture material; 2) degree of learning involved for you; 3) the performance of the lecturer.

	Relevance of Lecture Material to ED Nursing: 1 = Very Relevant 6 = Not Relevant	Learning Involved for You: 1 = Great Deal 2 = Moderate Amount 3 = Some 4 = Not New Material	Performance of the Lecturer: (Organization, Clarity, Communication of Info.) 1 = Excellent 2 = Good 3 = Satisfactory 4 = Fair
Module # 1 - Emergency Medical Service System			
EMS Overview	1 2 3 4 5 6	1 2 3 4	1 2 3 4
EMS Communications	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Role of EMT and Paramedic	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Module # 2 - Emergency Department Nursing			
Role of the nurse in the ED	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Triage Nursing	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Avoiding Malpractice - Accountability, Liability, Responsibilities	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Crisis Intervention	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Assertiveness in the ED	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Planned Change in the ED	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Physical Assessment Skills Lab	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Organ Donation	1 2 3 4 5 6	1 2 3 4	1 2 3 4

REV
7/8]

	Relevance of Lecture Material to ED Nursing	Learning Involved for You	Performance of the Lecturer
Module # III - Diagnostic Studies			
Diagnostic Radiology	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Fluid & Electrolytes	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Diagnostic Laboratory Tests			
Arterial Blood Gases	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Arterial Blood Gas Interpretation Workshop			
Module # IV - H.E.E.N.T. Structure/ Function/Alteration			
Facial Trauma	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Epistaxis			
Ocular Emergencies	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Module # V - Neurological Structure/ Function/Alteration			
Anatomy & Physiology of the Nervous System/Assessment	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Head Injuries	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Spinal Cord Injuries	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Neurological Emergencies	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Module # VI - Pulmonary Structure/ Function/Alteration			
Pulmonary Anatomy & Physiology/Assessment	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Chronic Obstructive Pulmonary Disease	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Respiratory Failure	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Thoracic Trauma	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Near-Drowning	1 2 3 4 5 6	1 2 3 4	1 2 3 4

	Relevance of Lecture Material to ED Nursing						Learning Involved for You				Performance of the Lecturer		
Module # VII - Cardiovascular-Peripheral Vascular Structure/ Function/Alteration													
Cardiovascular Anatomy & Physiology	1	2	3	4	5	6	1	2	3	4	1	2	3
Cardiac Electrophysiology	6	5	4	3	2	1	4	3	2	1	4	3	2
Normal Electrocardiogram Interpretation	6	5	4	3	2	1	4	3	2	1	4	3	2
Myocardial Infarction	6	5	4	3	2	1	4	3	2	1	4	3	2
Congestive Heart Failure	6	5	4	3	2	1	4	3	2	1	4	3	2
Pulmonary Edema													
Cardiogenic Shock													
Cardiovascular Pharmacokinetics	6	5	4	3	2	1	4	3	2	1	4	3	2
Cardiac Pacemakers	1	2	3	4	5	6	1	2	3	4	1	2	3
Peripheral Vascular Injuries	6	5	4	3	2	1	4	3	2	1	4	3	2
Module # VIII - Gastrointestinal Structure/ Function/Alteration													
Anatomy & Physiology of the Gastro-intestinal System	6	5	4	3	2	1	4	3	2	1	4	3	2
Abdominal Emergencies	6	5	4	3	2	1	4	3	2	1	4	3	2
Poisonings	1	2	3	4	5	6	1	2	3	4	1	2	3
Module # IX - Genito-Urinary Structure/ Function/Alteration													
GU Trauma	6	5	4	3	2	1	4	3	2	1	4	3	2
Obstetrical/Gynecological Emergencies	6	5	4	3	2	1	4	3	2	1	4	3	2
Module # X - Musculoskeletal Structure/ Function/Alteration													
Orthopedic Injuries	1	2	3	4	5	6	1	2	3	4	1	2	3

	Relevance of Lecture Material to ED Nursing	Learning Involved for You	Performance of the Lecturer
Module # XI - Integumentary Structure/ Function/Alteration			
Management of the Burn Patient	6 5 4 3 2 1	4 3 2 1	4 3 2 1
Module # XII - Multiple Trauma			
Multiple Trauma	1 2 3 4 5 6	1 2 3 4	1 2 3 4
Module # XIII - Shock			
Anaphylactic, Hypovolemic, Neurogenic, and Septic Shock	6 5 4 3 2 1	4 3 2 1	4 3 2 1
Module # XIV - ACLS	6 5 4 3 2 1	4 3 2 1	4 3 2 1

#__________

COMMENTS:

Quiz:

Mini Course:

Final Examination:

Practical Examination:

Critical-Care Emergency Department
Nurse Education Program

COURSE REQUIREMENTS

Quiz	10%
Ambulance Observation/Evaluation	S/U*
Clinical Experience/Evaluation	S/U*
Mini-course Presentation	20%
Written Examination	40%
Practical Examination	
1) Multiple Trauma	10%
2) Triage	20%
Attendance	S/U*
Passing Grade	80%

*Satisfactory/Unsatisfactory

Revised 7/81

#______________

Critical-Care Emergency Department
Nurse Education Program

Quiz

REQUIREMENTS

1. Write the answers to ten multiple-choice questions which are related to all material up to week four.
2. Answer the questions in 30 minutes.
3. Answer the ten questions correctly and attain a quiz score of 100%, which accounts for 10% of the final course grade.

OEMS
7/81

Critical-Care Emergency Department Nurse Education Program

Written Examination

REQUIREMENTS

1. Answer 100 multiple-choice questions which are related to all material presented during program.
2. Answer the 100 questions correctly and attain a written examination score of 100%, which accounts for 40% of the final course grade.
3. Arrange a tutorial with the CEDNEP coordinator if written examination score is less than 75%.
4. Complete a short-answer, open-book, take-home examination one month after the completion of CEDNEP in the event of failure on the CEDNEP written examination.
    - a. Questions derived from readings included on class bibliographies.
    - b. Document the sources from which answers are derived.
    - c. Return to CEDNEP coordinator one week after re-test is received by student.
5. Audit another CEDNEP if accumulative score of 80% is not achieved.

Critical-Care Emergency Department
Nurse Education Program

Ambulance Observation Experience

REQUIREMENTS

1. Observe for 16 hours, in four or eight hour timeframes.
2. Observe experience with local ambulance service or ask CEDNEP coordinator for assistance by week 3.
3. Do not arrange experience during class hours.
4. Complete experience by week 8 and submit ambulance observation experience evaluation by week 9, in order to satisfactorily complete requirements and CEDNEP course.

(Detach and return to CEDNEP coordinator by week 3.)

Name: ______________________________

Ambulance Service: ______________________________

Date of experience: ___/___/___ ___/___/___ ___/___/___ ___/___/___

Time of experience: ____to____ ____to____ ____to____ ____to____

#___________

Critical-Care Emergency Department
Nurse Education Program

Ambulance Observation Experience

OBJECTIVES

Observe the conduction of patients through the emergency medical service system, in terms of:

1. initial call for help
2. dispatch of pre-hospital personnel
3. transportation to a medical facility
4. disposition in a medical facility

Observe the activities conducted by pre-hospital personnel at the scene, in terms of:

1. patient assessment
2. pre-hospital patient care
3. radio communication of patient assessment and patient care data to the medical facility

Observe the relationship that exists between pre-hospital personnel and emergency department personnel, in terms of:

1. communications and documentation of patient data
2. collaboration in patient care
3. provision of information and feedback to pre-hospital personnel by emergency department personnel.

Propose a nursing action that may improve nurses' collaboration and communication with pre-hospital personnel, in your own agency.

#____________

The Commonwealth of Massachusetts
Department of Public Health
Office of Emergency Medical Services
80 Boylston Street, Room 725
Boston, Mass. 02116 617-727-0564

Alfred L. Frechette, M.D.
COMMISSIONER

This is to introduce ________________________________, who is a participant in the Critical-Care Emergency Department Nurse Education Program (CEDNEP). CEDNEP is a nursing continuing education program which is coordinated by the Office of Emergency Medical Services (OEMS). CEDNEP participants are required to complete a 16 hour ambulance observation experience in partial fulfillment of the course requirements.

The purpose of this experience is to observe pre-hospital patient care, conduction of patients through the emergency medical service system, and the role of pre-hospital personnel. A more collaborative relationship may also evolve between nurses and pre-hospital personnel as a result of this experience.

Thank you for your time and your support of nursing continuing education. I look forward to hearing from you at OEMS if you have any questions or if I may assist you in any way.

Sincerely,

Virginia C. Capasso

Virginia Curtin Capasso, R.N., M.S.N.
State EMS Nurse Coordinator

VCC/nb

#__________

Critical-Care Emergency Department
Nurse Education Program

Ambulance Observation Experience

Name: ______________________________

CEDNEP location: Region ______________________________

Ambulance Service: ______________________________

City: ______________________________

____

Dates of experience: ___/___/___ ___/___/___ ___/___/___ ___/___/___

Times of experience: _____to_____ _____to_____ _____to_____ _____to_____

Number of calls: __________

Types of calls: ______________ ______________

______________ ______________

______________ ______________

______________ ______________

______________ ______________

#_______________

The following questionnaire gives you an opportunity to express your views of the ambulance observation experience and the way in which it was conducted. Indicate the response closest to your view by circling the number that corresponds with the appropriate description.

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

1. The objectives for the experience were clear, helpful, and appropriate. 1 2 3 4

   Explain:

2. This was a valuable learning experience. 1 2 3 4

   Explain:

3. This experience may help to improve my emergency practice. 1 2 3 4

   Explain:

4. Pre-hospital personnel conducted patient assessments. 1 2 3 4

   Explain:

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

5. Pre-hospital personnel administered patient care. 1 2 3 4

Explain:

6. Pre-hospital personnel transmitted accurate and complete reports of patients' status and care. 1 2 3 4

Explain:

7. Emergency department personnel requested clarification and additional information from pre-hospital personnel or provided direction to pre-hospital personnel over the radio. 1 2 3 4

Explain:

8. The reception of patients in the emergency department was prompt. 1 2 3 4

Explain:

9. The severity of the patient's illness/injury and need for priority care were assessed and the patient was triaged accordingly by the triage nurse in the emergency department. 1 2 3 4

Explain:

10. Emergency department personnel elicited a history from pre-hospital personnel and/or the patient. 1 2 3 4

Explain:

11. Pre-hospital and emergency department personnel collaborated on patient care. 1 2 3 4

Explain:

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

12. Pre-hospital personnel documented their patient assessment data and patient care activities, which were included in the patient record. **1 2 3 4**

Explain:

13. Pre-hospital and emergency department personnel evaluated pre-hospital patient care and radio communications. **1 2 3 4**

Explain:

14. Pre-hospital and emergency department personnel had a collaboration relationship. **1 2 3 4**

Explain:

#__________

Critical-Care Emergency Department
Nurse Education Program

Clinical Experience

REQUIREMENTS

1. Complete eight hours of clinical experience by week 8 and submit appropriate clinical experience evaluation to CEDNEP coordinator by week 9 in order to satisfactorily complete this CEDNEP clinical experience requirement.

2. Arrange an experience in an emergency department, other than the one in which you are employed, by week 3.

3. Or, arrange one of the following clinical experiences with the CEDNEP coordinator by week 3:

   a. Boston City Hospital Main Accident floor
   b. Boston City Hospital Pediatric Walk-In Unit
   c. Shriner's Burn Institute
   d. Boston University Hospital Spinal Cord Injury Unit

4. Do not arrange clinical experiences during class hours.

(Detach and return to CEDNEP coordinator by week 3.)

Name: ______________________________

Clinical Experience: ______________________________

Date(s) of Experience: ______________________________

Time(s) of Experience: ______________________________

#

Critical-Care Emergency Department Nurse Education Program

Emergency Department Clinical Experience*

OBJECTIVES

Investigate the role of the nurse in another emergency department and the institutional policies and procedures that influence the nurse's role, in terms of:

1. Triage
2. Patient history-taking and physical assessment
3. Initiation of diagnostic procedures and treatment
4. Nursing intervention
5. Crisis intervention
6. Patient/family education
7. Patient referral
8. Communication and documentation of patient goals, medical and nursing interventions, and patient outcomes
9. Continuous evaluation and appropriate modification or adoption of medical and nursing interventions
10. Collaboration with other members of the health team
11. Patient advocacy

Share observations that may improve patient care in the emergency department, with appropriate personnel in your own agency.

(*To be utilized by students who complete clinical experience at Boston City Hospital Main Accident Floor or Pediatric Walk-In Unit, or another emergency department.)

GUIDELINES

TIME: 8:00 a.m. - 4:00 p.m.

WEAR: Street clothes and lab coat

CANCELLATION: Call if you are unable to attend

#________

The Commonwealth of Massachusetts
Department of Public Health
Office of Emergency Medical Services
80 Boylston Street, Room 725
Boston, Mass. 02116 617-727-0564

Alfred L. Frechette, M.D.
COMMISSIONER

This is to introduce ______________________________ who is a participant in the Critical-Care Emergency Department Nurse Education Program (CEDNEP). CEDNEP is a nursing continuing education program which is coordinated by the Office of Emergency Medical Services (OEMS). CEDNEP participants are required to complete an eight hour clinical experience in partial fulfillment of the course requirements. The clinical experience may consist of observation in an emergency department, other than the one in which the participant is employed.

The purpose of the emergency department clinical experience is to observe the role of the nurse, in terms of triage, patient assessment, nursing intervention, collaboration with other members of the health team, communication, documentation, and evaluation of interventions and patient outcomes. A collegial relationship between nurses from different hosptials may also evolve as a result of this experience.

Thank you for your time and your support of nursing continuing education. I look forward to hearing from you at OEMS if you have any questions or if I may assist you in any way.

Sincerely,

Virginia C. Capasso

Virginia Curtin Capasso, R.N., M.S.N.
State EMS Nurse Coordinator

VCC/nb

Critical-Care Emergency Department
Nurse Education Program

Emergency Department Clinical Experience*

Name: ______________________________

CEDNEP location: ____________________ Region: ________

Date: ______________________________

Emergency Department: ______________________________

Address: ______________________________

____

____

Date(s) of experience: ____/____/____ ____/____/____

Time of experience: ________to________ ________to________

Patient census per 24 hour period: ______________________________

Emergency Department liasion: ______________________________

____

(*To be utilized by students who complete clinical experiences at Boston City Hospital Main Accident Floor or Pediatric Walk-In Unit, or another emergency department.)

#____________

The following questionnaire gives you an opportunity to express your view of the role of the nurse in another emergency department, CEDNEP clinical experience, and the way in which the experience was conducted. Indicate the response closest to your view by circling the number that corresponds with the appropriate description.

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

1. The objectives were clear, helpful and appropriate. 1 2 3 4

   Explain:

2. This was a valuable learning experience. 1 2 3 4

   Explain:

3. This experience may help to improve my nursing practice. 1 2 3 4

   Explain:

4. The emergency department liasion(s) was very helpful. 1 2 3 4

   Explain:

5. This emergency department had a nursing triage system. 1 2 3 4

   Explain:

#____________

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

6. The triage nurse:

   a. Interviewed the patients 1 2 3 4

   b. Assessed patients 1 2 3 4

   c. Determined need for priority care and triaged appropriately 1 2 3 4

   d. Initiated diagnostic procedures and treatments 1 2 3 4

   e. Communicated by radio with pre-hospital personnel 1 2 3 4

   f. Took referrals from physicians by phone 1 2 3 4

   g. Answered information-seeking phone calls from the public 1 2 3 4

   Explain:

7. The emergency nurse collected data about the overall health status of patients by:

   a. Taking a history 1 2 3 4

   b. Conducting a physical assessment related to chief complaints. 1 2 3 4

   1 2 3 4

   c. Ordering diagnostic studies. 1 2 3 4

   Explain

#______________

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

8. The emergency department nurse collaborated with other members of the health team, in order to provide optimal patient care. **1 2 3 4**

Explain:

9. I was told that this ED utilizes:
1 = Yes 2 = No

a. Nursing history form **1 2**
b. Physical assessment form **1 2**
c. P.O.M.R. **1 2**
d. Progress notes **1 2**
e. S.O.A.P. notes **1 2**
f. Nursing care plans **1 2**
g. Nursing audit **1 2**
h. Quality assurance programs **1 2**
i. Patient teaching tools/programs **1 2**
j. Nursing rounds **1 2**

Explain:

10. The emergency department personnel included:
1 = Yes 2 = No

a. Emergency clinical nurse specialist **1 2**
b. Trauma clinical nurse specialist **1 2**
c. Unit teacher **1 2**
d. In-Service educator **1 2**

1 = Yes
2 = No

e. Psychiatric clinical nurse specialist 1 2

f. Nurse practitioner(s) 1 2

g. Physician's assistant(s) 1 2

h. Paramedic coordinator 1 2

i. Rape counselor(s) 1 2

j. Battered spouse counselor(s) 1 2

k. Social worker(s) 1 2

l. Alcoholic counselor (s) 1 2

m. Emergency department physician 1 2

n. Resident physicians 1 2

Explain their roles:

11. The following were operationalized in the observed emergency department similar to the way in which they are operationalized in my own agency:

a. Triage 1 2

Explain:

b. Patient history-taking and physical assessment 1 2

Explain:

#__________

1 = Yes
2 = No

c. Initiation of diagnostic procedures and treatments. 1 2

Explain:

d. Nursing intervention 1 2

Explain:

e. Crisis intervention 1 2

Explain:

f. Patient/family education 1 2

Explain:

g. Communication and documentation of patient goals, medical and nursing interventions, and patient outcomes 1 2

Explain:

h. Collaboration of health team members 1 2

Explain:

#__________

1 = Yes
2 = No

i. Patient advocacy 1 2

Explain:

j. Patient referrals 1 2

Explain:

k. Reporting patients' incident/accident to appropriate government or community agency 1 2

Explain:

l. Arrest team/code team 1 2

Explain:

m. Burn team/trauma team 1 2

Explain:

n. Nursing system for patient care in the Emergency Department (e.g. primary or team nursing) 1 2

Explain:

12. I shared observations that may improve patient care with the appropriate persons in the observed agency. 1 2

Explain:

#______________

1 = Yes
2 = No

13. I shared observations that may improve patient care with the appropriate persons in my own agency. 1 2

Explain:

14. Additional comments and suggestions

#__________

Critical-Care Emergency Department
Nurse Education Program

Spinal Cord Injury Unit Clinical Experience

OBJECTIVES

Analyze the rationale for transfer protocols and policies from emergency departments to teritary facilities for spinal cord injury patients.

Explore the nursing process as it is implemented during the admission, acute, and rehabilitative phases of hospitalization on a speciality unit for spinal cord injury patients.

Examine the medical and nursing interventions and the concept of team management that are utilized in order to provide optimal care and continuity of care to spinal cord injury patients.

Realize the scope of the spinal cord injury problem.

Propose nursing action that may decrease the incidence or prevent spinal cord injury.

GUIDELINES

TIME: *8:00 A.M. - 4:00 P.M.*

WHERE: *F-5 (Spinal Cord Injury Unit) Nurses Station*
Boston University Hospital
75 East Newton Street
Boston, Massachusetts 02118

WEAR: WHITE UNIFORM

CANCELLATION: Call if you are unable to attend

#____________

Critical-Care Emergency Department
Nurse Education Program

Burn Unit Clinical Experience

OBJECTIVES

Analyze the rationale for transfer protocols and policies from emergency departments to teritary facilities for burn patients.

Explore the nursing process as it is implemented during the admission, acute, and rehabilitative phases of hospitalization for burn patients.

Examine the medical and nursing interventions and the concpet of team management that are utilized in order to provide optimal care and continuity of care to spinal cord injury patients.

Realize the scope of the burn problem.

Propose nursing action that may decrease the incidence or prevent burns.

GUIDELINES

TIME: *8:00 A.M. - 4:00 P.M.*

WHERE: *Reception Desk*

Main Lobby

Shriner's Burn Center

51 Blossom Street

Boston, Massachusetts 02114

WEAR: Scrub Suit; no white shoes or open-toed shoes

CANCELLATION: Call if you are unable to attend

#__________

Critical-Care Emergency Department Nurse Education Program

Speciality Clinical Experience*

Name: ____

CEDNEP location: ________________________ Region: ________

Specialty Unit: ____________________________________

Date of experience: ________________________________

Time of experience: ________________________________

Specialty Unit liasion(s): ____________________________

____

____

(* To be used by students who complete clinical experiences at Shriner's Burn Institute or Boston University Hospital Spinal Cord Injury Unit)

#______________

The following questionnaire gives you an opportunity to express your views on care of the spinal cord injury/burn patient in a specialty facility, the CEDNEP clinical experience, and the way in which it was conducted. Indicate the response closest to your view by circling the number that corresponds with the appropriate description.

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

1. The objectives were clear, helpful, and appropriate. 1 2 3 4

   Explain:

2. This was a valuable learning experience. 1 2 3 4

   Explain:

3. The experience may help to improve my nursing practice. 1 2 3 4

   Explain:

4. The specialty unit liasion(s) was helpful. 1 2 3 4

   Explain:

5. This facility had developed and distributed transfer protocols and policies. 1 2 3 4

   Explain:

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

6. The following were components of the admission procedure on the unit:

a. nursing history	1 2 3 4
b. physical assessment	1 2 3 4
c. development of a problem list	1 2 3 4
d. synthesis of a nursing care plan	1 2 3 4
e. synthesis patient outcome or evaluation criteria	1 2 3 4
f. other	1 2 3 4

Explain:

7. The following nursing activities were implemented during the acute and rehabilitative phases of hospitalization:

a. continuous evaluation and modification of patient goals, medical and nursing interventions, and patient outcome criteria.	1 2 3 4
b. collaboration with other members of the health team.	1 2 3 4
c. communication and documentation of patient goals, medical and nursing interventions, and patient outcomes.	1 2 3 4
d. crisis interventions	1 2 3 4
e. patient/family education	1 2 3 4
f. patient advocacy	1 2 3 4
g. patient referrals	1 2 3 4
h. other	1 2 3 4

Explain:

1 = Strongly agree with the statement
2 = Agree more than disagree with the statement
3 = Disagree more than agree with the statement
4 = Strongly disagree with the statement

8. Standard treatment protocols had been developed and were implemented according to pre-determined time schedules. 1 2 3 4

Explain:

9. The team concept of patient management was utilized in order to promote continuity of care. 1 2 3 4

Explain:

10. Statistical data related to the spinal cord injury/burn problems were available to me. 1 2 3 4

Explain:

11. Historical data related to spinal cord injury/burn management were available to me. 1 2 3 4

Explain:

12. Data related to prevention of spinal cord injury/burns were available to me. 1 2 3 4

Explain:

13. Additional comments and suggestions related to CEDNEP specialty clinical experience:

Critical-Care Emergency Department
Nurse Education Program

Mini-Course

REQUIREMENTS

1. Inform coordinator of topic selected for mini-course by week 3.

2. Submit a detailed outline of mini-course, related to a component of the Emergency Medical Service System*, to the CEDNEP coordinator by week 5.

3. Design the outline according to the following format**.

   a. Title
   b. Statement of objectives for mini-course
   c. Development of presentation according to objectives
   d. Summary/Conclusions

4. Submit a bibliography, with the outline, to the CEDNEP coordinator during week 5, according to the following specifications***:

   a. At least three references
   b. References no greater than five years old
   c. At least two references from nursing and non-nursing periodical literature.

5. Present mini-course orally, for 5-10 minutes, during designated timeframes (week 9), according to alphabetical order.

6. Utilize A-V equipment and handouts during presentation.

7. Attain 10% of final course grade for submission of correctly designed outline and compilation of bibliography on suggested mini-course topic.

8. Attain 10% of final course grade for presentation consistent with sample.

(*See Appendix A, "Suggested Mini-Course Topics")

(**See Appendix B, "Sample Mini-Course Outline")

(***See Appendix C, "Sample Mini-Course Bibliography")

- -

(Detach and return to coordinator by week 3)

Name: ______________________________

Topic of mini-course: ______________________________

____

#______________

Critical-Care Emergency Department
Nurse Education Program

Mini-Course

OBJECTIVES

Assess the structure/function of the Emergency Medical Service System.

Analyze the interaction of Emergency Medical Service Systems with other segments of the health care system.

Examine the current role of nursing in the Emergency Medical Service System.

Propose potential roles that nursing may assume in the Emergency Medical Service System.

#

Critical-Care Emergency Department Nurse Education Program

Appendix A

SUGGESTED MINI-COURSE TOPICS*

Directions: Select either #1, or #2, or #3, or #4, or #5, or #6. If you select #1, or #2, or #6, choose one of the subcategories as the focus of your mini-course.

1. Select one of the fifteen components of the Emergency Medical Service System and discuss its positive and negative implications on your delivery of emergency nursing care and your department's delivery of care:
   - a. Manpower
   - b. Training
   - c. Communications
   - d. Transportation
   - e. Facilities/Categorization
   - f. Critical Care Units
   - g. Public Safety Agencies
   - h. Consumer Participation
   - i. Accessibility to Care
   - j. Transfer of Patients
   - k. Standard Medical Recordkeeping
   - l. Public Information & Education
   - m. Evaluation
   - n. Disaster Linkage
   - o. Mutual Aid Agreements

2. Discuss one of the following concepts:
   - a. Role of pre-hospital personnel
   - b. Procedure for radio communications
   - c. Transfer protocols
   - d. E.M.S. regional system
   - e. Community resources for the emergency patient
   - f. State and community resources for patient referral
   - g. Role of the emergency nurse in the E.M.S. System
   - h. E.M.S. committees -
     - 1) focus
     - 2) problems
     - 3) accomplishments
     - 4) nursing issues

3. Interview an E.M.S. committee member.

4. Attend and report on an E.M.S. committee meeting.

5. Assess your own emergency department's interaction in the E.M.S.

6. Following interviews and literature review, recommend improvements in:
   - a. Own agency's emergency service
   - b. Own town's emergency service
   - c. Own region's emergency service
   - d. Own state's emergency service
   - e. The Federal emergency service
   - f. Legislation related to emergency medical services

(*Selection of topics not included on the above list is permitted only at the discretion of the CEDNEP coordinator. It is the responsibility of the student to discuss topic selection with the course coordinator well in advance of the scheduled presentation.)

#

Critical-Care Emergency Department
Nurse Education Program

Appendix B

SAMPLE MINI-COURSE OUTLINE

I. Title: The Role of a Nurse in the Emergency Medical Service System: State E.M.S. Nurse Coordinator

II. Objectives

- A. Examine the role and responsibilities of a nurse in a public agency.
- B. Analyze the impact of a nurse on the E.M.S.S. other than in the emergency department.
- C. List the recommendations of a nurse working in the E.M.S.S. related to increasing nursing input in the E.M.S.S.

III. Discussion

- A. Role and responsibilities of the State E.M.S. Nurse Coordinator
  1. Administration
     - a. Personnel
     - b. Continuing education programs
       - 1) CEDNEP
       - 2) mini-courses
       - 3) national symposium
  2. Staff development
  3. Grantsmanship
  4. Teaching
  5. Committees
  6. Professional development
- B. Impact on E.M.S.S.
  1. Increasing visibility of nursing in E.M.S.S.
     - a. Interfacing with other health professionals on E.M.S. committees, intra-office, interdepartmental, interagency.
     - b. Developing regional nursing subcommittees/task forces.
     - c. Contributing to E.M.S. Alert newsletter
     - d. Developing OEMS Nursing pamphlet
     - e. Presenting reports at E.M.S. Advisory Board meetings
  2. Planning programs that will increase role of nurse in pre-hospital care, trauma center designation, etc.
     - a. Trauma Nurse Education Program
     - b. Mobile I.C.U. Nurse Education Program
     - c. Preparatory course for RN's to challenge EMT exam
     - d. Transfer Protocols Committee

C. Recommendations

1. Supervision of EMTs in ER
2. Formal and informal teaching of pre-hospital personnel
3. Public education
4. Participation on state and regional EMS committees
5. Support and participation in professional organizations
6. On-going continuing education
7. Nursing research/publications

IV. Summary/Conclusions

A. The State EMS Nurse Coordinator may increase the credibility and visibility of nursing in the E.M.S.S.

1. With local, regional, and state support on nursing and multidisciplinary committees
2. With increasing numbers of colleagues employed in the E.M.S.S.
3. With collaborative efforts between public agencies and professional organizations

B. Nurses may relinquish more of their professional responsibilities if they do not unite and voice their beliefs and views in the political arena.

VCC
1/81

#____________

Critical-Care Emergency Department Nurse Education Program

Appendix C

SAMPLE MINI-COURSE BIBLIOGRAPHY

Danis, D.M. Nursing roles in an EMS agency. *Journal of Emergency Nursing*, September-October, 1980, 49-51.

Interview with Virginia Capasso, R.N., M.S.N., State EMS Nurse Coordinator, Massachusetts Office of Emergency Medical Services, Boston, Massachusetts, January 13, 1981.

Romano, T. The nurse as an EMS consultatn. *Journal of Emergency Nursing*, September-October, 1980, 41-42.

#________

Critical-Care Emergency Department
Nurse Education Program

Multiple Trauma Practical Examination

REQUIREMENTS

1. Provide a five-minute oral presentation, including:
    a. A systematic assessment of a simulated multiple-trauma patient
    b. Identification of multiple injuries
    c. Synthesis and oral presentation of nursing care plan related to each injury.

2. Achieve a multiple trauma practical examination score of 100%, or 10% of the final course grade, by meeting the following criteria:
    a. Systematic assessment (40%)
    b. Identification of injuries (20%)
    c. Synthesis and presentation of nursing care plan (40%)

3. Arrange tutorial with CEDNEP coordinator, multiple trauma practical examination re-test, and CEDNEP audit, as necessary.

Critical-Care Emergency Department
Nurse Education Program

Triage Practical Examination

REQUIREMENTS

1. Conduct a two minute simulated patient interview/assessment in which the following data are systematically elicited:

   a. Chief complaint
   b. History of present illness (7 dimensions of a clinical problem)
      1) onset
      2) duration
      3) frequency
      4) quality
      5) quantity
      6) aggravating factors
      7) relieving factors
   c. Significant past medical history
      1) adult and chronic illnesses
      2) allergies
      3) medications

2. Systematically record the patient history data in a S.O.A.P. note, according to the following format:

   a. Subjective (S.)
      1) chief complaint
      2) history of present illness
      3) past medical history
   b. Objective (O.)
      1) inspection findings
      2) palpation findings
      3) auscultory finding
      4) vital signs
   c. Assessment (A.)
      1) nursing diagnosis
      2) explanation/rationale
   d. Plan (P.)
      1) diagnostic procedures
      2) treatment procedures
      3) disposition
      4) patient/family education
      5) patient/family psychological support

3. Achieve a triage practical examination score of 100%, or 20% of the final course grade, by collecting and recording the following data:

   a. Chief complaint
   b. History of present illness
   c. Past medical history
   d. S.O.A.P. Note

4. Arrange tutorial with CEDNEP coordinator, triage practical examination re-test, and CEDNEP audit, as necessary.

#__________

Critical-Care Emergency Department
Nurse Education Program

Attendance

REQUIREMENTS

1. Attend 97.5 hours of CEDNEP classes and 40 hours of clinical experiences:
    a. Ambulance observation experience (16 hours)
    b. Clinical experience (8 hours)
    c. Advanced cardiac life support program (16 hours)

2. Attend CEDNEP classes and complete clinical experiences, in order to:
    a. Perform well on written and practical examinations.
    b. Receive 137.5 nursing continuing education contact hours from the Massachusetts Nurses Association.

#___________

Critical-Care Emergency Department
Nurse Education Program

Advanced Cardiac Life Support

REQUIREMENTS

1. Fulfill pre-requisites:
    a. Current B.L.S. certification
    b. Two near-perfect recordings of chest compressions/breaths:
        1) one-man station
        2) two-man station

2. Attend 16 hours of Advanced Cardiac Life Support (A.C.L.S.) programs.

3. Attend 16 hours of A.C.L.S. instructor program, if previously A.C.L.S. certified. Pre-requisites:
    a. Current A.C.L.S. certification
    b. Current B.L.S. certification

4. Or, arrange eight additional hours of clinical experience, if:
    a. Previously A.C.L.S. certified
    b. Not interested in becoming A.C.L.S. instructor

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MODULE I

Emergency Medical Service System (E.M.S.S.)

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF THE EMERGENCY MEDICAL SERVICE SYSTEM

Objectives

Analyze the historical evolution of the Emergency Medical Service System.

Diagram the organizational hierarchy of the EMSS at the federal, state and regional levels.

Identify and define the components of an EMSS*.

Discuss the present status of your regional EMS and its interaction with public service/health care facilities in the region.

Hypothesize the future role of your regional EMSS.

Propose the roles by which nurses may assume to become more involved in EMS.

*Discussion of the communication component of the EMSS should be limited, as another hour of lecture is concerned with communications exclusively.

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF THE EMERGENCY MEDICAL SERVICE SYSTEM

Outline

I. Historical Evolution of EMSS

- A. 1967: "Multiple Trauma: The Hidden Disease"
- B. 1973: EMS Act (Federal)
- C. 1976: Federal Amendment
- D. Present Status - Statewide

II. Organizational Hierarchy of EMSS

- A. Federal
- B. State
- C. Region

III. Components of EMSS

- A. Manpower
- B. Training
- C. Communications*
- D. Transportation
- E. Facilities
- F. Critical Care Units
- G. Public Safety Agencies
- H. Mutual Aid Agreements
- I. Accessibility to Care
- J. Transfer of Patients
- K. Standard Record Keeping
- L. Public Information/Education
- M. Evaluation
- N. Disaster Linkage
- O. Consumer Participation

IV. Regional EMS

- A. Present Status
- B. Interaction with Public Service/Health Care Facilities
- C. Projected Role

V. Nursing Involvement in EMS

- A. State
    - 1) NCEC
    - 2) OEMS Division of Nursing

- B. Regional
    - 1) Nursing Services Committee
    - 2) Other EMS Committees

*Discussion of the Communications component of the EMSS should be limited, as another hour of lecture is concerned with Communications exclusively.

Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF THE EMERGENCY MEDICAL SERVICE SYSTEM

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Critical-Care Emergency Department
Nurse Education Program

ROLE OF THE EMERGENCY MEDICAL TECHNICIAN (EMT) AND PARAMEDIC

Objectives

List the classifications of EMTs and Paramedics.

Differentiate pre-hospital personnel according to their functional levels.

Explore the components of EMT and Paramedic training programs.

Discuss the mechanisms of continuing education and recertification for EMTs and Paramedics.

Discuss areas in which nursing and pre-hospital personnel should readily collaborate to promote optimal emergency patient care.

Critical-Care Emergency Department
Nurse Education Program

ROLE OF THE EMERGENCY MEDICAL TECHNICIAN (EMT) AND PARAMEDIC

Outline

I. Classifications of EMT's and paramedics

- A. EMT - A
- B. EMT - I
- C. EMT - C
- D. EMT - P

II. Functions of EMT's and Paramedics

- A. EMT - A
  1. Patient assessment (head - toe)
  2. Airway maintenance
  3. CPR
  4. Control bleeding
  5. Splinting/Stabilization of fractures
  6. Extrication
  7. Emergency childbirth

- B. EMT - I
  1. Current certification as an EMT-A
  2. Insertion of intravenous catheter (angiocatheter)
  3. Application of MAST trousers
  4. Insertion of EOA's

- C. EMT - C
  1. Current certification as an EMT-A
  2. Insertion of intravenous catheters
  3. Insert EOA's
  4. Moniter patient cardiac rhythm
  5. Check Meds

- D. EMT - P
  1. Current certification as an EMT-A, EMT-I, and EMT-C
  2. Follow physician orders from Medical Control Hospital

III. Training components of EMT and paremedics

- A. EMT - A
  1. 81 hour DOT curriculum
  2. 6 months ambulance experience

- B. EMT - I
  1. 81 hour DOT curriculum
  2. Modules 1,2,3,5 & 15 of paramedic curriculum

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ROLE OF THE EMERGENCY MEDICAL TECHNICIAN (EMT) AND PARAMEDIC

Outline cont'd

C. EMT - C
    1. 81 hour DOT curriculum
    2. Modules 1-6 & 15 of paramedic curriculum

D. EMT - P
    1. 81 hour DOT curriculum
    2. Modules 1-15 of DOT paramedic curriculum

IV. Continuing education requirements for recertification of EMT's

A. Earn 48 hours of OEMS approved continuing education every 2 years
B. DOT refresher course once every 2 years
C. Recertified in CPR annually

Critical-Care Emergency Department
Nurse Education Program

Role of the Emergency Medical Technician (EMT) and Paramedic

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EMERGENCY MEDICAL SERVICE COMMUNICATIONS

Objectives

Examine the utilization of telecommunications in the modern EMSS.

Differentiate medical communications systems (VHF or UHF).

Describe, by name and function, the radio equipment in use in your local ED and evaluate its merits in contrast to other system types.

Explain (and use) appropriate radio techniques.

Examine the three degrees of medical radio use and the clinical benefit to patient care for each.

Critical-Care Emergency Department
Nurse Education Program

TELECOMMUNICATIONS

Outline

I. Components of EMS Telecommunications

  A. Citizen access (911)
  B. Dispatch communications
  C. Medical communications

II. Medical Communication Systems

  A. VHF (H.E.A.R., E.A.C.O.M.)
  B. UHF (CMED Systems)
  C. Radio equipment
    1. base station and antenna
    2. mobile (mobile repeater)
    3. portable
    4. hospital remote control with handset
  D. Terminology
    1. simplex
    2. duplex
    3. telemetry (multiplex)

III. Radio Procedures

  A. Errors
  B. Good habits

IV. Medical Effectiveness and Clinical Impact

  A. Medical control/medical direction
  B. Pre-hospital notification
  C. Pre-hospital triage
  D. Pre-hospital consultation

Critical-Care Emergency Department
Nurse Education Program

Emergency Medical Service Communications

Objectives

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MODULE II

Emergency Department Nursing

THE ROLE OF THE NURSE IN THE EMERGENCY DEPARTMENT

Objectives

Analyze the historical evolution of emergency department nursing as a specialty.

Define emergency department nursing practice.

Outline the components of emergency department nursing practice.

State the philosophy of emergency department nursing practice.

Identify the standards of emergency nursing practice and synthesize their implementation in clinical practice.

Hypothesize about the evolution of emergency deparment nursing at an advanced level.

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Critical-Care Emergency Department Nurse Education Program

THE ROLE OF THE EMERGENCY DEPARTMENT NURSE

Outline

I. Historical evolution of emergency department nursing

  A. 1970's Emergency Department Nurses Association
  B. 1973 Federation of Specialty Nursing
  C. 1975 Standards of Emergency Department Nursing Practice
  D. 1980 Certified Emergency Nursing

II. Define Emergency Department (ED) Nursing

  A. Standards of Practice
  B. Massachusetts Board of Registration Subcommittee (Task Force)

III. Components of Emergency Department Nursing Practice

  A. Patient care
  B. Patient advocate
  C. Collaboration
  D. Consultation
  E. Teaching
  F. Change
  G. Leadership
  H. Professional development
  I. Self-evaluation

IV. Nursing Process

  A. Assess
  B. Plan
  C. Implement
  D. Evaluation
  E. Compare Standards of Nursing Practice with Nursing Process

V. Future evolution of Emergency Department Nursing

  A. ED nurse practitioners
  B. Clinical nurse specialists in ED
  C. MICU
  D. Trauma nurse specialist
  E. Life flight nurses

Critical-Care Emergency Department
Nurse Education Program

The Role of the Nurse in the Emergency Department

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Critical-Care Emergency Department
Nurse Education Program

The Role of the Nurse in the Emergency Department

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TRIAGE NURSING

Objectives

Define triage nursing.

Analyze the history of the concept of triage.

Identify the components of a triage system.

Synthesize the role of the triage nurse.

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Critical-Care Emergency Department
Nurse Education Program

TRIAGE NURSING

Outline

I. Define Triage Nursing

II. Historical Development of Triage System

- A. 1913
- B. 1940
- C. 1960
- D. 1970

III. Components of a Triage System

- A. Manpower
- B. Staff development
- C. Policies and protocols
- D. Physical plant
- E. Equipment

IV. Types of Triage Systems

- A. Non-professional
- B. Basic nursing triage system
- C. Advanced nursing triage system
- D. Physician triage system
- E. Team triage

V. Qualifications of Triage Nurse

VI. Components of role of Triage Nurse

- A. Patient care
  - 1. history taking
  - 2. physical assessment
  - 3. nursing diagnosis
  - 4. patient categorization
  - 5. diagnostic procedures according to protocol
  - 6. treatment procedures according to protocol
  - 7. disposition
  - 8. documentation
- B. Patient advocate
- C. Traffic controller
- D. Consultation
- E. Collaboration
- F. Teaching
- G. Change agent
- H. Professional development
- I. Evaluation

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Critical-Care Emergency Department
Nurse Education Program

Triage Nursing

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Critical-Care Emergency Department
Nurse Education Program

ACCOUNTABILITIES, LIABILITIES, AND RESPONSIBILITIES OF THE EMERGENCY DEPARTMENT NURSE

Objectives

Cite three risk factors inherent to emergency nursing.

Define Tribunal composition and function.

Relate importance of timely and objective documentation with respect to Massachusetts malpractice statute of limitations.

Identify at least ten procedures relevent to the safe delivery of nursing care in the emergency area.

Describe three principles of an adequate incident reporting system.

List five accountabilities of the emergency room nurse in malpractice defense.

Critical-Care Emergency Department Nurse Education Program

ACCOUNTABILITIES, LIABILITIES, AND RESPONSIBILITIES OF THE EMERGENCY DEPARTMENT NURSE

Outline

I. Risk factors inherent to emergency nursing
   A. Emotional turmoil of client
   B. Environment of expediency
   C. Limited availability for follow-up

II. Tribunal
   A. Composition
      1. judge
      2. attorney
      3. registered nurse
      4. physician
      5. hospital administrator

   B. Function
      1. metorious cases
      2. frivolous cases

III. Documentation
   A. Statute of limitations
      1. adult
      2. pediatric

IV. Safe delivery of nursing care
   A. Qualified triage system
   B. Defined scope of services
   C. Identification system for patients
   D. Organized transfer and referral protocol
   E. Informed consent
   F. Treatment of minors
   G. Communicable diseases
   H. Care of alleged rape victim
   I. Cases reportable to law enforcement agencies
   J. Use of anesthetics
   K. Cardiac arrest protocol
   L. Protocol for notification of definitive diagnosis
   M. Application of restraint and safety devices

V. Principles of adequate incident reporting system
   A. Retribution free system
   B. Completed in timely and objective fashion
   C. Designed as communication and data collection tool

VI. Accountabilities of the emergency department nurse in malpractice defense
   A. Job description-qualifications and credentials.

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Critical-Care Emergency Department
Nurse Education Program

ACCOUNTABILITIES, LIABILITIES, AND RESPONSIBILITIES OF THE EMERGENCY DEPARTMENT NURSE

Outline cont'd

B. Policies and procedures
C. Medical record documentation
D. Nurse Practice Act
E. Applicable regulatory and consultative agency standards (HEW, JCAH, EDNA)

Critical-Care Emergency Department
Nurse Education Program

ACCOUNTABILITIES, LIABILITIES, AND RESPONSIBILITIES OF THE EMERGENCY DEPARTMENT NURSE

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Critical-Care Emergency Department
Nurse Education Program

ACCOUNTABILITIES, LIABILITIES, AND RESPONSIBILITIES OF THE EMERGENCY DEPARTMENT NURSE

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Critical-Care Emergency Department
Nurse Education Program

CRISIS INTERVENTION

Objectives

Define crisis intervention.

Explore the historical development of crisis intervention methodology.

Describe techniques of crisis intervention which are appropriate for selected populations:

a. the significant others of trauma, critically ill, and/or sudden death victims
b. psychiatric patients
c. rape victims
d. battered persons

Hypothesize the role of the emergency department nurse in crisis intervention.

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Critical-Care Emergency Department
Nurse Education Program

CRISIS INTERVENTION

Outline

I. What is a crisis?

   A. definition of crisis
   B. characteristics of crisis
   C. value of intervention

II. Crisis Intervention

   A. brief history and description
   B. how a stressful event becomes a crisis
   C. indications for crisis intervention
   D. steps in crisis intervention
   E. goals

III. Assessment of the individual

   A. perception of the event
   B. support systems
   C. coping mechanisms

IV. Specific situations for crisis intervention

   A. significant others of trauma, critically ill or sudden death
   B. psychiatric patients
   C. rape victims
   D. battered persons

V. Crisis Intervention applied to emergency nursing

   A. case finding
   B. initiation of intervention utilizing relevant principles of crisis intervention
   C. limitations due to short term contact, lack of private areas, etc.

VI. Disposition

   A. identification of community resources
   B. referral to appropriate agencies

VII. Role of emergency department nurse in crises intervention

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Critical-Care Emergency Department
Nurse Education Program

Crisis Intervention

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Critical-Care Emergency Department
Nurse Education Program

ASSERTIVENESS IN THE EMERGENCY DEPARTMENT

Objectives

Introduce cognitive, affective and behavioral concepts for increasing interpersonal effectiveness.

Increase the learner's awareness of personal and professional rights and strengths.

Distinguish between aggressive, threatening and non-assertive behavior and assertive behavior.

Begin developing a personal and professional belief system which supports rights of self and others.

Identify/define five concepts related to assertive behavior.

Divide into small groups and by role-playing:

-identify ways in which nurses can support each other
-discuss responsible behaviors and attitudes.

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Critical-Care Emergency Department
Nurse Education Program

ASSERTIVENESS IN THE EMERGENCY DEPARTMENT

Outline

I. Concepts for increasing interpersonal effectiveness

   A. Cognitive
   B. Affective
   C. Behavioral

II. Behavior in the Emergency Department

   A. Aggressive
   B. Threatening
   C. Non-assertive
   D. Assertive

III. Concepts in assertive behavior

   A. Self-concept
   B. Change
   C. Limit setting
   D. Negotiating
   E. Dependence/independence

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Critical-Care Emergency Department Nurse Education Program

Assertiveness in the Emergency Department

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

Objectives

Describe techniques of Physical Assessment in relation to the following:

1. Head/Ears/Eyes/Nose/Throat
2. Lung/Thorax
3. Heart/Arteries/Veins/Pulses/Pressures
4. Abdomen
5. Musculoskeletal System
6. Nervous System

Demonstrate inspection, palpation, percussion, and auscultation of these structures and systems.

Practice physical assessment skills.

Note: Demonstration time is allotted during assessment skill lab.

History taking is discussed in previous lecture.

Critical-Care Emergency Department
Nurse Education Program

PHYSICAL ASSESSMENT SKILLS LAB

GUIDELINES

1. Students are asked to bring the following equipment to class on the day of the physical assessment skills lab:

    a. a patient gown (johnnie)
    b. a stethoscope (with a diaphragm and a bell)
    c. an opthalmoscope (if available)
    d. a reflex hammer (if available)
    e. a safety pin
    f. cotton tip applicators
    g. 2 test tubes
    h. a centimeter ruler (if available)

2. Students will be divided into 6 groups, according to alphabetical order.

3. The following stations will be set up:

    a. H.E.E.N.T. (Station 1)
    b. Nervous System (Station 2)
    c. Lung/Thorax (Station 3)
    d. Cardiovascular System (Station 4)
    e. Abdomen (Station 5)
    f. Musculoskeletal (Station 6)

4. The students in Group 1 will begin the practicum at Station 1, Group 2 at Station 2, etc.

5. The appropriate assessment skills will be demonstrated by the faculty member at each station, then students will practice the skills on each other.

6. Students will rotate to the next station every 30 minutes.

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Critical-Care Emergency Department
Nurse Education Program

Physical Assessment

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

H.E.E.N.T.

Outline

I. Inspection and/or palpation of the following structures:

A. Head
  1. hair
  2. scalp
  3. skull
  4. face
  5. skin

B. Eyes
  1. eyebrows
  2. eyelids
  3. sclera and conjunctiva
  4. cornea and lens
  5. iris
  6. pupils

C. Ears

D. Nose

E. Throat
  1. mouth
  2. tongue
  3. neck

II. Examination of eardrum with otoscope & identification of landmarks:

A. Pars tensa with cone of light

B. Umbo

C. Handle and short process of the malleus

III. Examination of the eye with opthalmoscope an identification of:

A. Red reflex

B. Retina

C. Optic disc

IV. Description of normal and abnormal findings

OEMS
1/81

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

NERVOUS SYSTEM

Outline

I. Demonstration of assessment of:

A. Cranial nerves
  1. 1st
  2. 2nd
     1) visual acuity
  3. 3rd, 4th, 6th
     1) pupillary reaction
     2) extraocular movement
  4. 5th
     1) motor
     2) corneal
  5. 7th
  6. 9th, 10th
  7. 11th
  8. 12th

B. Motor system
  1. gait, heel-to-toe walking
  2. Romberg Test, hopping in place; toe and heel walking
  3. muscle tone/muscle strength (selected)

C. Sensory
  1. pain
  2. temperature
  3. light touch

D. Reflexes
  1. biceps
  2. triceps
  3. brachioradialis
  4. knee
  5. ankle
  6. plantar

II. Description of normal and abnormal findings

OEMS
1/81

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

LUNG/THORAX

Outline

I. Inspection of the chest for:

- A. Deformities
- B. Slope of the ribs
- C. Retraction/bulging of interspaces
- D. Rate and rhythm of breathing

II. Palpation of the chest and:

- A. Identification of tenderness
- B. Assessment of observed abnormalities
- C. Assessment of respiratory excursion
- D. Elicitation of fremitus
- E. Estimation of level of diaphram

III. Percussion and auscultation of the chest and discrimination of normal and abnormal sounds.

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

CARDIOVASCULAR SYSTEM

Outline

I. Landmarks on the anterior thorax:

- A. Aortic area
- B. Pulmonic area
- C. Tricuspid area
- D. Mitral area

II. Inspection of anterior thorax

- A. Pulsations
- B. Lifts, heaves
- C. Extra impulses
- D. Thrills

III. Palpation of anterior thorax

- A. P.M.I.
- B. Aortic impulse

IV. Auscultation of anterior thorax

- A. S_1
  - 1. intensity
  - 2. splitting
- B. S_2
  - 1. intensity
  - 2. splitting
- C. S_3
- D. S_4
- E. Murmurs
- F. Clicks
- G. Snaps

Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

ABDOMEN

Outline

I. Inspection of abdomen

- A. Skin
    1. scars
    2. striae
    3. dilated veins
    4. rashes lesions
- B. Umbilicus
- C. Contour
- D. Symmetry
- E. Masses
- F. Peristalsis
- G. Pulsations

II. Auscultation of abdomen

- A. Bowel sounds
- B. Bruits

III. Percussion of the abdomen

- A. Liver dullness
- B. Gastric tympany
- C. Splenic dullness
- D. Bladder dullness

IV. Palpation of the abdomen

- A. Light
    1. muscular resistance
    2. superficial organs
    3. tenderness
- B. Deep
    1. delineation of organs
    2. masses
    3. tenderness

V. Describe normal and abnormal findings

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Critical-Care Emergency Department
Nurse Education Program

OVERVIEW OF PHYSICAL ASSESSMENT/SKILLS LAB

MUSCULOSKELETAL SYSTEM

Outline

I. Inspection of joints bilaterally

  A. Deformities

  B. Swelling

  C. Redness

  D. Nodules

  E. Muscular atrophy

II. Palpation of joints bilaterally

  A. Swelling

  B. Tenderness

  C. Crepitation with motion

  D. Bogginess

  E. Lesions

III. Assessment limitation in the normal range of motion and strength

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Critical-Care Emergency Department
Nurse Education Program

PLANNED CHANGE IN THE EMERGENCY DEPARTMENT

Objectives

Define planned change.

Analyze theories of planned change, strategies for change, the planned change process, and the role of the change agent.

Identify aspects of emergency department nursing practice in which planned change would be beneficial.

Hypothesize the role of the emergency department nurse as a change agent.

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Critical-Care Emergency Department
Nurse Education Program

PLANNED CHANGE

Outline

I. Definitions

- A. Planned change
- B. Change agent
- C. Client population
- D. Force field
- E. Driving forces
- F. Restraining forces
- G. Unfreezing
- H. Changing
- I. Refreezing

II. Planned Change Theory

- A. Lewin
- B. Reinkmeyer
- C. Havelock

III. Planned Change Process

- A. Identification of problem
- B. Selection/qualifications/role of a change agent
- C. Force field analysis
  - a. driving forces
  - b. restraining forces
- D. Strategies for change
  - a. normative - re-education
  - b. power - coercive
  - c. empirical - rational

E. Activities of the change agent/client population
  a. unfreezing
  b. changing
  c. refreezing

IV. Simulated change process related to issue in emergency department

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Critical-Care Emergency Department
Nurse Education Program

Planned Change in the Emergency Department

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Critical-Care Emergency Department
Nurse Education Program

ORGAN DONATIONS

Objectives

Identify need for cadaver kidneys for transplantation.

List alternative treatments of ESRD patients.

Discriminate between a non-donor and potential donor by using specific medical criteria.

Identify basic principles of donor management.

Identify legalities of organ donation as they relate to Anatomical Gift Act.

Define components of consent for organ donation from next of kin.

Compare local and national criteria for brain death and relate to cadaver donation.

Critical-Care Emergency Department
Nurse Education Program

ORGAN DONATIONS

Outline

I. Statement of problem or need for cadaver kidneys for transplantation

II. History of organ procurement and renal transplantation

III. Development of organ procurement program

IV. Identification and management of potential donors

V. Legalities of organ donation

VI. Declaration of brain death

VII. Matching of recipient and donor

VIII. Preservation of cadaver kidneys

IX. Transplantation of cadaver kidneys

X. Costs relating to organ procurement

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Critical-Care Emergency Department Nurse Education Program

Organ Donations

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MODULE III

Diagnostic Studies

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Critical-Care Emergency Department
Nurse Education Program

DIAGNOSTIC RADIOLOGY

Objectives

Explain the concept of densities in relation to x-ray interpretation.

Identify and describe the various types of diagnostic x-ray procedures.

List the indications for ordering various types of x-ray studies/views.

List the x-rays that should be ordered in the emergency department for patients with the following complaints:

1. Head injuries
2. Facial trauma
3. Spinal cord injures
4. Thoracic trauma
5. Abdominal trauma/pain
6. Genitourinary trauma
7. Orthopedic injuries
8. Peripheral vascular injuries

Illustrate normal and abnormal findings on selected chest, abdomen, and extremity x-rays.

Discuss the teaching/learning needs of patients in relation to selected x-ray procedures.

Identify the indications for a nurse to monitor a patient in the x-ray department.

Discuss the hazards of x-rays for the patient and personnel and safety precautions that eliminate the hazards.

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Critical-Care Emergency Department
Nurse Education Program

DIAGNOSTIC RADIOLOGY

Outline

I. Densities

   A. Air
   B. Fat
   C. Soft tissue
   D. Bone
   E. Metal

II. Types of diagnostic X-ray procedures

   A. Arteriography
   B. Arthrography
   C. Cineradiography
   D. Contrast radiography
   E. Myelography
   F. Radiographic magnification
   G. Scanography
   H. Sonography
   I. CAT scans

III. List the X-rays that should be ordered in the emergency department for patients with the following complaints:

   A. Head injuries
   B. Facial trauma
   C. Spinal cord injuries
   D. Thoracic trauma
   E. Abdominal trauma/pain
   F. Genitourinary trauma
   G. Orthopedic injuries
   H. Peripheral vascular injuries

IV. Normal and abnormal findings for

   A. Chest X-rays
   B. Abdomen X-rays
   C. Extremity X-rays

V. Teaching/learning needs of patients

   A. Description of procedure
   B. Purpose of procedure
   C. Patients' participation

VI. Patients that should be monitored in the radiology department

   A. Critically ill/injured
   B. Psychiatric

DIAGNOSTIC RADIOLOGY

Outline con't

VII. Hazards of radiographic tests

- A. Excess radiation
- B. Dye reaction

VIII. Safety Precautions in radiographic tests

- A. Patient
    - 1. determine LMP
    - 2. lead shielding
- B. Personnel
    - 1. radiation counters
    - 2. precautions in pregnancy

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Critical-Care Emergency Department
Nurse Education Program

Diagnostic Radiology

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Critical-Care Emergency Department
Nurse Education Program

FLUID AND ELECTROLYTE BALANCE/IMBALANCE

Objectives

Discuss the distribution of body fluids in the extracellular (plasma, interstitial), transcellular (CSF, intraluminal intestinal, and ocular), and intracellular fluid compartments.

Identify the constituents of body fluids.

Discuss the function, distribution, and concentration of each constituent in the various fluid compartments.

Describe the fluid exchange through the capillary membranes.

Identify potential disturbances in water volume (dehydration, overhydration), concentration (hyperosmolar states, hyper/hyponatremia), and hydrogen ion/ electrolyte concentration (respiratory acidosis/alkalosis, metabolic acidosis alkalosis, hyper/hypokalemia, hyper/hypocalcemia, hyper/hypomagnesemia, hyper/hypophosphatemia).

Propose the etiology, pathophysiology, and complications associated with these disturbances.

Construct the profile of a patient who has one of these disturbances, in terms of patient history and physical examination findings.

Discuss the homeostatic mechanisms for correction of these disturbances and the medical and nursing interventions to correct these disturbances.

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Critical-Care Emergency Department
Nurse Education Program

FLUID AND ELECTROLYTE BALANCE/IMBALANCE

Outline

I. Distribution of body fluids
   A. Extracellular
   B. Transcellular
   C. Intracellular

II. Constituents of body fluids
   A. Water
   B. Electrolytes
      1. sodium
      2. potassium
      3. chloride
      4. bicarbonate
      5. calcium
      6. magnesium

III. Water
   A. function
   B. distribution
   C. concentration

IV. Electrolytes
   A. function
   B. distribution
   C. concentration

V. Movement of body fluids in the body
   A. Osmosis
   B. Diffusion
   C. Active transport
   D. Filtration

VI. Potential disturbances
   A. Water volume
      1. Dehydration
         a. patient profile
         b. etiology
         c. pathophysiology
         d. complications
         e. physical exam findings
         f. medical and nursing interventions

      2. Overhydration
         a. patient profile
         b. etiology
         c. pathophysiology
         d. complications
         e. physical exam findings
         f. medical and nursing interventions

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FLUID AND ELECTROLYTE BALANCE/IMBALANCE

Outline cont'd

B. Hydrogen ion
  1. Respiratory acidosis/alkalosis
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications
    e. physical exam findings
    f. medical and nursing interventions

  2. Metabolic acidosis/alkalosis
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications
    e. physical exam findings
    f. medical and nursing interventions

C. Electrolyte concentration
  1. Hyper/hypokalemia
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications
    e. physical exam findings
    f. medical and nursing interventions

  2. Hyper/hypocalcemia
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications
    e. physical exam findings
    f. medical and nursing interventions

  3. Hyper/hypomagnesemia
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications
    e. physical exam findings
    f. medical and nursing interventions

  4. Hyper/hyponatremia
    a. patient profile
    b. etiology
    c. pathophysiology
    d. complications

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Critical-Care Emergency Department
Nurse Education Program

FLUID AND ELECTROLYTE BALANCE/IMBALANCE

Outline cont'd

   e. physical exam findings
   f. medical and nursing interventions

5. Hyper/hypochloremia
   a. patient profile
   b. etiology
   c. pathophysiology
   d. complications
   e. physical exam findings
   f. medical and nursing interventions

Critical-Care Emergency Department
Nurse Education Program

FLUID AND ELECTROLYTE BALANCE/IMBALANCE

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Critical-Care Emergency Department
Nurse Education Program

DIAGNOSTIC LABORATORY TESTS

Objectives

List laboratory tests which are routinely ordered in the emergency department, including bacteriology studies.

Identify the indications for ordering various laboratory tests.

List the normal laboratory values and explain the significance of abnormal results.

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Critical-Care Emergency Department
Nurse Education Program

DIAGNOSTIC LABORATORY TESTS

Outline

I. Laboratory tests routinely ordered in the Emergency Department
  A. Complete blood count with differential
    1. indications
    2. normal laboratory values
    3. significance of abnormal results

  B. Urinalysis
    1. indications
    2. normal laboratory values
    3. significance of abnormal results

  c. Chem Screen (SMA - 12)
    1. indications
    2. normal laboratory values
    3. significance of abnormal results

  D. Cardiac Enzymes
    1. indications
    2. normal laboratory values
    3. significance of abnormal results

  E. Toxicology Screen
    1. indications
    2. specimens
    3. normal laboratory values
    4. significance of abnormal values

  F. Blood Alcohol
    1. indications
    2. legal aspects
    3. normal laboratory values
    4. significance of abnormal values

Critical-Care Emergency Department
Nurse Education Program

DIAGNOSTIC LABORATORY TESTS

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Critical-Care Emergency Department
Nurse Education Program

ARTERIAL BLOOD GASES

Objectives

Explain the diagnostic value of arterial blood gas determinations.

Identify the indications for drawing arterial blood gases.

Discuss the concept of gas exchange and transport, in terms of oxygen partial pressures (Po_2), carbon dioxide partial pressures (Pco_2), oxyhemoglobin saturation (O_2 saturation), and oxygen transport.

Explain the oxyhemoglobin dissociation curve and the carbon dioxide dissociation curve.

Discuss the concept of acid-base balance, in terms of carbon dioxide transport, pH, buffer systems, acid-base disturbances, and compensatory mechanisms.

Differentiate normal arterial and venous blood gas values.

Compile arterial blood gas values indicative of respiratory acidosis/alkalosis, compensated respiratory acidosis/alkalosis, metabolic acidosis/alkalosis, compensated metabolic acidosis/alkalosis.

Discuss the emergency medical and nursing management of acid-base disturbances.

Critical-Care Emergency Department
Nurse Education Program

ARTERIAL BLOOD GASES

Outline

I. Diagnostic value of arterial blood gas
  A. status of arterial oxygenation
  B. status of ventilation perfusion
  C. status of acid-base balance
  D. presence of compensatory mechanisms

II. Indications for drawing arterial blood gases
  A. respiratory dysfunctions
    1. acute
    2. chronic

  B. cardiac dysfunctions
  C. others

III. Components of gas exchange and transport
  A. PO_2
  B. PCO_2
  C. O_2 saturation
  D. O_2 transport

IV. Oxyhemoglobin dissociation curve
  A. definition
  B. significance

V. Carbon dioxide dissociation curve
  A. definition
  B. significance

VI. Components of acid-base balance
  A. carbon dioxide transport
  B. pH
  C. buffer systems
  D. acid-base disturbances
  E. compensatory mechanism

VII. Values of arterial and venous blood gases
  A. pH
  B. PCO_2
  C. HCO_3
  D. PO_2

VIII. Arterial blood gas values indicative of:
  A. respiratory acidosis/alkalosis
  B. compensated respiratory acidosis/alkalosis
  C. metabolic acidosis/alkalosis
  D. compensated metabolic acidosis/alkalosis

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Critical-Care Emergency Department
Nurse Education Program

ARTERIAL BLOOD GASES

Outline con't

IX. Emergency medical & nursing management of acid-base disturbances
  A. respiratory acidosis/alkalosis
  B. compensated respiratory acidosis/alkalosis
  C. metabolic acidosis/alkalosis
  D. compensated metabolic acidosis/alkalosis

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Critical-Care Emergency Department
Nurse Education Program

Arterial Blood Gases

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Critical-Care Emergency Department
Nurse Education Program

ARTERIAL BLOOD GAS INTERPRETATION WORKSHOP

Objectives

Examine and interpret arterial blood gas reports.

Review the pathophysiological processes indicated by the reports.

Propose the medical and nursing management of patients with selected acid-base disturbances.

Interpretation workshop should utilize recognition, discussion, and management of acid-base disturbances.

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MODULE IV

E.E.N.T. Structure/Function/Alteration

#

Critical-Care Emergency Department
Nurse Education Program

FACIAL TRAUMA

Objectives

Review the anatomy of the face.

Identify common facial injuries and the mechanisms of injury with which they are associated.

Describe the complications associated with various types of facial injuries.

Propose the emergency medical and nursing management of the patient with facial injuries, in terms of:

1. diagnostic procedures
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

Critical-Care Emergency Department
Nurse Education Program

FACIAL TRAUMA

Outline

I. Anatomy of the face

  A. Bones
    1. Frontal
    2. Lacrimal
    3. Maxillae
    4. Mandible
    5. Zygomatic
    6. Temporal
    7. Parietal
    8. Nasal
    9. Sphenoid

  B. Oral Cavity
  C. Orbital Cavity
  D. Nasal Cavity
  E. Skin
  F. Muscles
  G. Vascular Structures
  H. Nervous Structures

II. Common facial injuries

  A. Orbital Fracture
    1. mechanism of injury
    2. diagnostic procedures
    3. medical & nursing management
    4. patient disposition
    5. patient/family support & education
    6. complications

  B. Zygomatic Fracture
    1. mechanism of injury
    2. diagnostic procedures
    3. medical & nursing management
    4. patient disposition
    5. patient/family support & education
    6. complications

  C. Nasal Fracture
    1. mechanism of injury
    2. diagnostic procedures
    3. medical & nursing management
    4. patient disposition
    5. patient/family support & education
    6. complications

FACIAL TRAUMA

Outline cont'd

D. Maxillary Fracture
   1. mechanism of injury
   2. diagnostic procedures
   3. medical & nursing management
   4. patient disposition
   5. patient/family support & education
   6. complications

E. La Forte - I, II, III
   1. mechanism of injury
   2. diagnostic procedures
   3. medical & nursing management
   4. patient disposition
   5. patient/family support & education
   6. complications

F. Mandibular
   1. mechanism of injury
   2. diagnostic procedures
   3. medical & nursing management
   4. patient disposition
   5. patient/family support & education
   6. complications

G. Lacerations
   1. mechanism of injury
   2. diagnostic procedures
   3. medical & nursing management
   4. patient disposition
   5. patient/family support & education
   6. complications

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Critical-Care Emergency Department
Nurse Education Program

EPISTAXIS

Objectives

Identify and discuss the anatomical structures/functions of the nose, sinuses, and upper airway.

Describe the etiologies, pathophysiology, and complications associated with epistaxis.

Propose the emergency medical and nursing management of the patient with epistaxis, in terms of:

1. diagnostic procedures
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

EPISTAXIS

Outline

I. Anatomical structure/function
   A. nose
   B. sinuses
   C. upper airway

II. Etiologies of epistaxis
   A. Trauma
      1. pathophysiology
      2. diagnostic procedures
      3. medical & nursing management
      4. complications
      5. disposition/follow-up
      6. patient - family support & education

   B. Hypertension
      1. pathophysiology
      2. diagnostic procedures
      3. medical & nursing management
      4. complications
      5. disposition/follow-up
      6. patient - family support & education

   C. Upper respiratory tract infection
      1. pathophysiology
      2. diagnostic procedures
      3. medical & nursing management
      4. complications
      5. disposition/follow-up
      6. patient - family support & education

   D. Foreign body
      1. pathophysiology
      2. diagnostic procedures
      3. medical & nursing management
      4. complications
      5. disposition/follow-up
      6. patient - family support & education

   E. Nasal polyps
      1. pathophysiology
      2. diagnostic procedures
      3. medical & nursing management
      4. complications
      5. disposition/follow-up
      6. patient - family support & education

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Critical-Care Emergency Department
Nurse Education Program

EPISTAXIS

Outline cont'd

F. Iatrogenic induction
   1. pathophysiology
   2. diagnostic procedures
   3. medical & nursing management
   4. complications
   5. disposition/follow-up
   6. patient - family support & education

G. Abnormality of hemostasis
   1. pathophysiology
   2. diagnostic procedures
   3. medical & nursing management
   4. complications
   5. disposition/follow-up
   6. patient - family support & education

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Critical-Care Emergency Department
Nurse Education Program

Epistaxis

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Critical-Care Emergency Department
Nurse Education Program

OCULAR EMERGENCIES

Objectives

Identify and describe anatomical structures of the eye that are basic to an eye examination.

Outline the components of an eye examination, in terms of:

1. inspection
2. palpation
3. determination of visual acuity
4. examination of visual fields
5. test of extraocular movements
6. opthalmoscopic examination

Discuss medical and nursing interventions, in terms of:

1. diagnostic studies
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

Identify common eye injuries, mechanisms and the pathophysiology of injury with which they are associated.

Describe the complications associated with various types of eye injuries.

Note: Opthalmic examination will be addressed again in physical assessment.

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Critical-Care Emergency Department
Nurse Education Program

OCULAR EMERGENCIES

Outline

I. Anatomical structure of the eye

  A. Lids
  B. Canthus
  C. Conjunctiva
  D. Lacrimal ducts
  E. Sclera
  F. Cornea
  G. Ciliary muscle
  H. Iris
  I. Pupil
  J. Lens
  K. Retina
  L. Anterior and Posterior chamber
  M. Choroid
  N. Aqueous and Vitreous Humor
  O. Optic Nerve

II. Components of eye examination

  A. Inspection
  B. Palpation
  C. Visual acuity
  D. Visual fields
  E. Extraocular movements
  F. Opthalmoscopic examination

III. Common eye injuries

  A. Foreign Bodies

    1. Types
    2. Pathophysiology
    3. Diagnostic procedures
    4. Medical and Nursing management
    5. Complications
    6. Disposition/follow-up
    7. Patient/family support and education

  B. Burns

    1. Types
    2. Pathophysiology
    3. Diagnostic procedures
    4. Medical and Nursing management
    5. Complications
    6. Disposition/follow-up
    7. Patient/family support and education

OCULAR EMERGENCIES

Outline (Con't)

C. Contusions

1. Types
2. Pathophysiology
3. Diagnostic procedures
4. Medical and Nursing Management
5. Complications
6. Disposition/follow-up
7. Patient/family support and education

D. Penetrating Injuries

1. Types
2. Pathophysiology
3. Diagnostic procedures
4. Medical and Nursing Management
5. Complications
6. Disposition/follow-up
7. Patient/family support and education

E. Medical Eye Emergencies

1. Types
2. Pathophysiology
3. Diagnostic procedures
4. Medical and Nursing Management
5. Complications
6. Disposition/follow-up
7. Patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Ocular Emergencies

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MODULE V

Neurological Structure/Function/Alteration

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Critical-Care Emergency Department
Nurse Education Program

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM/NEUROLOGICAL ASSESSMENT

Objectives

Identify the anatomical divisions of the nervous system.

Discuss the cellular structure and function of the nervous system.

Explain the functions of the central nervous system, peripheral nervous system, autonomic nervous system.

Describe techniques of physical examination related to mental status, speech, cranial nerves, motor system, sensory system and reflexes.

Identify normal neurological examination findings and correlate these findings with neurological anatomy and physiology.

Critical-Care Emergency Department
Nurse Education Program

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM/NEUROLOGICAL ASSESSMENT

Outline

I. Organization of the nervous system
  A. Central Nervous System
    1. brain
    2. brainstem
    3. spinal cord

  B. Peripheral Nervous System
    1. cranial nerves
    2. spinal nerves

  C. Autonomic Nervous System
    1. central nervous system
    2. peripheral nervous system

II. Cellular structure and function
  A. Neuroglia
    1. astrocytes
    2. oligodendroglia
    3. neuroglia
    4. apendymal

  B. Neurons
    1. cell body
    2. dendrites
    3. axons

III. Anatomical components of the nervous system and their functions
  A. Central Nervous System
    1. Brain
      a. Cerebrum
        1. frontal lobe
        2. parietal lobe
        3. occipital lobe
        4. temporal lobe
        5. limbic system

    2. Brain stem
      a. midbrain
      b. pons
      c. medulla

    3. Spinal cord
      a. posterior (dorsal) nerve root
      b. anterior (ventral) nerve root
      c. gray matter
      d. white matter

ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM/NEUROLOGICAL ASSESSMENT

Outline cont'd

- B. Peripheral Nervous System
  - 1. Cranial nerves
    - a. olfactory
    - b. optic
    - c. oculomotor
    - d. trochlear
    - e. trigeminal
    - f. abducens
    - g. facial
    - h. acoustic
    - i. glossopharyngeal
    - j. vagus
    - k. spinal accessory
    - l. hypoglossal

  - 2. Spinal nerves
    - a. 8 cervical
    - b. 12 thoracic
    - c. 5 lumbar
    - d. 5 sacral
    - e. 1 coccygeal

- C. Autonomic Nervous System
  - 1. sympathetic
  - 2. parasympathetic

IV. Techniques of physical assessment
- A. Mental status
- B. Speech
- C. Cranial nerves
- D. Motor system
- E. Sensory system (Dermatomes)
- F. Reflexes

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Critical-Care Emergency Department Nurse Education Program

Anatomy and Physiology of the Nervous System/Neurological Assessment

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Critical-Care Emergency Department
Nurse Education Program

HEAD INJURIES

Objectives

Identify the types of head injuries and common mechanisms of injury with which they are associated.

Analyze the pathophysiology, complications, and prognosis associated with various types of head injuries.

Synthesize the clinical profiles of patients with various types of head injuries, in terms of patient history, physical examination findings, and diagnostic study data.

Propose the emergency medical and nursing management of patients with head injuries, in terms of:

1. treatment procedures/disposition
2. patient/family psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

HEAD INJURIES

Outline

- I. Types of injuries
  - A. Scalp lacerations
  - B. Skull fractures
    - 1. linear
    - 2. comminuted
    - 3. depressed
  - C. Cerebral concussions
  - D. Cerebral contusions
  - E. Hemorrhages and hematomas
    - 1. Epidural
    - 2. subdural
    - 3. subarachnoid
    - 4. intracranial

- II. Scalp lacerations
  - A. Mechanism of injury
  - B. Clinical profile
  - C. Pathophysiology
  - D. Diagnostic studies
  - E. Physical examination findings
  - F. Medical and nursing management
  - G. Patient/family support & education

- III. Skull fractures
  - A. Mechanism of injury
  - B. Clinical profile
  - C. Pathophysiology
  - D. Diagnostic studies
  - E. Physical examination findings
  - F. Medical and nursing management
  - G. Patient/family support & education

- IV. Cerebral concussion
  - A. Mechanism of injury
  - B. Clinical profile
  - C. Pathophysiology
  - D. Diagnostic studies
  - E. Physical examination findings
  - F. Medical and nursing management
  - G. Patient/family support & education

- V. Cerebral contusion
  - A. Mechanism of injury
  - B. Clinical profile
  - C. Pathophysiology
  - D. Diagnostic studies

HEAD INJURIES

Outline cont'd

- E. Physical examination findings
- F. Medical and nursing management
- G. Patient/family support & education

VI. Hemorrhages and Hematomas
- A. Mechanism of injury
- B. Clinical profile
- C. Pathophysiology
- D. Diagnostic studies
- E. Physical examination findings
- F. Medical and nursing management
- G. Patient/family support & education

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Critical-Care Emergency Department
Nurse Education Program

HEAD INJURIES

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SPINAL CORD INJURIES

Objectives

Identify the types of spinal cord injuries and the mechanisms of injury with which they are associated.

Analyze the pathophysiology, complications, and prognosis associated with various types of spinal cord injuries.

Construct the clinical profile of spinal cord injury patients, in terms of patient history, physical examination findings, and diagnostic study data.

Plan the emergency medical and nursing management of patients with various types of spinal cord injuries, in terms of:

1. treatment procedures/disposition
2. patient/family psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

SPINAL CORD INJURIES

Outline

- I. Types of injury
  - A. Spine injuries
    - 1. wedge or compression fracture
    - 2. burst fracture
    - 3. dislocation
    - 4. fracture/dislocation
  - B. Spinal cord injuries
    - 1. concussion
    - 2. compression
    - 3. spinal fluid block
    - 4. transection
      - a. partial
      - b. complete
    - 5. edema and spinal shock
- II. Spine injuries
  - A. Wedge or compression fracture
    - 1. mechanisms of injury
    - 2. clinical profile
    - 3. pathophysiology
    - 4. diagnostic studies
    - 5. physical examination
    - 6. medical & nursing management
    - 7. patient/family support & education
  - B. Burst fracture
    - 1. mechanisms of injury
    - 2. clinical profile
    - 3. pathophysiology
    - 4. diagnostic studies
    - 5. physical examination
    - 6. medical & nursing management
    - 7. patient/family support & education
  - C. Dislocation
    - 1. mechanisms of injury
    - 2. clinical profile
    - 3. pathophysiology
    - 4. diagnostic studies
    - 5. physical examination
    - 6. medical & nursing management
    - 7. patient/family support & education
  - D. Fracture dislocation
    - 1. mechanisms of injury

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SPINAL CORD INJURIES

Outline cont'd

2. clinical profile
3. pathophysiology
4. diagnostic studies
5. physical examination
6. medical & nursing management
7. patient/family support & education

III. Spinal Cord Injuries
- A. Concussion
  1. mechanisms of injury
  2. clinical profile
  3. pathophysiology
  4. diagnostic studies
  5. physical examination
  6. medical & nursing management
  7. patient/family support & education

- B. Compression
  1. mechanisms of injury
  2. clinical profile
  3. pathophysiology
  4. diagnostic studies
  5. physical examination
  6. medical & nursing management
  7. patient/family support & education

- C. Spinal fluid block
  1. mechanisms of injury
  2. clinical profile
  3. pathophysiology
  4. diagnostic studies
  5. physical examination
  6. medical & nursing management
  7. patient/family support & education

- E. Edema and spinal shock
  1. mechanisms of injury
  2. clinical profile
  3. pathophysiology
  4. diagnostic studies
  5. physical examination
  6. medical & nursing management
  7. patient/family support & educatio

Critical-Care Emergency Department
Nurse Education Program

SPINAL CORD INJURIES

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Critical-Care Emergency Department
Nurse Education Program

NEUROLOGICAL EMERGENCIES

Objectives

Analyze the etiology, pathophysiology, complications, and prognosis associated with the following neurological emergencies:

1. ruptured aneurysms
2. cerebral vascular accidents
3. intracranial hemmorhage, other than traumatic
4. meningitis
5. encephalitis
6. status epilepticus
7. Guillian Barre Syndrome

List the disgnostic studies that should be ordered for patients with the above pathophysiological processes.

Synthesize the clinical profiles of each patients population in the emergency department, in terms of patient history, physical examination findings, and diagnostic study data.

Propose the emergency medical and nursing management for each population of patients, in terms of:

1. treatment procedures/disposition
2. patient/family education
3. patient/family psychological support

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Critical-Care Emergency Department
Nurse Education Program

NEUROLOGICAL EMERGENCIES

Outline

I. Ruptured Aneurysm

  A. Etiology

  B. Pathophysiology

  C. Complications

  D. Clinical profile

  E. Diagnostic studies

  F. Physical examination findings

  G. Medical and nursing management

  H. Patient/family support and education

II. Cerebral Vascular Accident

  A. Etiology

  B. Pathophysiology

  C. Complications

  D. Clinical profile

  E. Diagnostic studies

  F. Physical examination findings

  G. Medical and nursing management

  H. Patient/family support and education

III. Non-traumatic Intracranial Hemorrhage

  A. Etiology

  B. Pathophysiology

  C. Complications

  D. Clinical profile

  E. Diagnostic studies

F. Physical examination findings

G. Medical and nursing management

H. Patient/family support and education

IV. Meningitis

A. Etiology

B. Pathophysiology

C. Complications

D. Clinical profile

E. Diagnostic studies

F. Physical examination findings

G. Medical and nursing management

H. Patient/family support and education

V. Encephalitis

A. Etiology

B. Pathophysiology

C. Complications

D. Clinical profile

E. Diagnostic studies

F. Physical examination findings

G. Medical and nursing management

H. Patient/family support and education

VI. Status Epilepticus

A. Etiology

B. Pathophysiology

C. Complications

D. Clinical profile

E. Diagnostic studies

F. Physical examination findings

G. Medical and nursing management

H. Patient/family support and education

VII. Guillian-Barre Syndrome

A. Etiology

B. Pathophysiology

C. Complications

D. Clinical profile

E. Diagnostic studies

F. Physical examination findings

G. Medical and nursing management

H. Patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Neurological Emergencies

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Critical-Care Emergency Department
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Neurological Emergencies

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MODULE VI

Pulmonary Structure/Function/Alteration

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Critical-Care Emergency Department
Nurse Education Program

PULMONARY ANATOMY AND PHYSIOLOGY

Objectives

Identify and describe the structural components/functions of the respiratory system.

Discuss the following concepts:

1. The mechanics of breathing
2. Gas exchange mechanisms, including ventilation/perfusion relationships
3. Neural and chemical control of respiration
4. Pulmonary cleansing mechanisms

Review techniques of physical assessment of the lung and thorax, in terms of inspection, palpation, percussion, auscultation.

Identify and discuss normal physical assessment findings as they relate to pulmonary anatomy and physiology.

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Critical-Care Emergency Department
Nurse Education Program

PULMONARY ANATOMY AND PHYSIOLOGY

Outline

I. Structural and Functional Components

   A. Structure

      1. muscles of inspiration
      2. muscles of expiration
      3. ribs/sternum

   B. Functional

      1. upper airway
      2. lower airway

II. Physiology of Respiratory System

   A. mechanics of breathing
   B. gas exchange
   C. neural and chemical control
   D. pulmonary cleansing mechanism

III. Techniques of physical Assessment

   A. lungs
   B. thorax

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Critical-Care Emergency Department
Nurse Education Program

Pulmonary Anatomy and Physiology

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Critical-Care Emergency Department
Nurse Education Program

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Objectives

Identify and discuss the classifications of chronic pulmonary diseases.

Discuss the etiologies, pathophysiology, and complications associated with the following airway obstructive disorders:

1. Asthma
2. Bronchitis
3. Emphysema

Synthesize the profile of patients with asthma, bronchitis, and emphysema, who are seen in the emergency department, in terms of patient history, physical examination findings, and diagnostic study data.

Describe the emergency medical and nursing management of patients with asthma, bronchitis, and emphysema, in terms of:

1. Treatment procedures
2. Patient/family psychological support
3. Patient/family education

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Critical-Care Emergency Department
Nurse Education Program

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Outline

I. Classifications

  A. Chronic obstructive airway disorders
  B. Chronic restrictive airway disorders
  C. Pulmonary vascular disorders

II. Chronic Obstructive Airway Disorders

  A. Asthma

    1. Etiology
    2. Clinical profile
    3. Pathophysiology
    4. Diagnostic studies
    5. Physical examination findings
    6. Medical and nursing management
    7. Patient/family support and education

  B. Bronchitis

    1. Etiology
    2. Clinical profile
    3. Pathophysiology
    4. Diagnostic studies
    5. Physical examination findings
    6. Medical and nursing management
    7. Patient/family support and education

  C. Emphysema

    1. Etiology
    2. Clinical profile
    3. Pathophysiology
    4. Diagnostic studies
    5. Physical examination findings
    6. Medical and nursing management
    7. Patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Chronic Obstructive Pulmonary Disease

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Chronic Obstructive Pulmonary Disease

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Critical-Care Emergency Department
Nursing Education Program

RESPIRATORY FAILURE

Objectives

Define respiratory failure.

Identify and explain the types of respiratory failure.

Discuss the etiologies, pathophysiology, and complications of the various types of respiratory failure.

Synthesize the profiles of patients with various types of respiratory failure, in terms of patient history, physical examination findings, and diagnostic study findings.

Describe the emergency medical and nursing management of patients with respiratory failure in terms of:

1. treatment/monitoring procedures/disposition
2. patient/family psychological support
3. patient/family education

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Critical-Care Emergency Department Nurse Education Program

RESPIRATORY FAILURE

Outline

I. Definition Respiratory Failure

II. Types of Respiratory Failure

   A. Hypoxemic

      1. Etiology
      2. Clinical Profile
      3. Pathophysiology
      4. Diagnostic Studies
      5. Physical Examination Findings
      6. Medical and Nursing Management
      7. Patient Family Support and Education

   B. Hypercapneic

      1. Etiology
      2. Clinical Profile
      3. Pathophysiology
      4. Diagnostic Studies
      5. Physical Examination Findings
      6. Medical and Nursing Management
      7. Patient Family Support and Education

Critical-Care Emergency Department
Nurse Education Program

Respiratory Failure

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Critical-Care Emergency Department
Nurse Education Program

THORACIC TRAUMA

Objectives

Identify the various types of thoracic injuries.

Describe the etiologies, pathophysiology, and complications associated with various types of thoracic trauma.

Construct the profile of a patient with thoracic trauma in terms of patient history, physical examination findings, and diagnostic study findings.

Propose the emergency medical and nursing management of patients with various types of thoracic trauma, in terms of:

1. Treatment procedures/disposition
2. Patient/family psychological support
3. Patient/family education

THORACIC TRAUMA

Outline

I. Epidemiology

- A. Penetrating
- B. Non-penetrating (blunt)

II. Types of Thoracic Trauma

III. Musculoskeletal Injuries

- A. Rib fractures
    1. etiology
    2. patient profile
    3. pathophysiology
    4. complications
    5. diagnostic studies
    6. physical examination findings
    7. medical and nursing intervention
    8. patient/family support and education
- B. Sternal fracture
    1. etiology
    2. patient profile
    3. pathophysiology
    4. complications
    5. diagnostic studies
    6. physical examination findings
    7. medical and nursing intervention
    8. patient/family support and education

IV. Injuries to the Pulmonary System

- A. Tracheal/Tracheal broncheal rupture
    1. etiology
    2. patient profile
    3. pathophysiology
    4. complications
    5. diagnostic studies
    6. physical examination findings
    7. medical and nursing intervention
    8. patient/family support and education
- B. Diaphramatic Rupture/Laceration
    1. etiology
    2. patient profile
    3. pathophysiology
    4. complications
    5. diagnostic studies
    6. physical examination findings
    7. medical and nursing intervention
    8. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

THORACIC TRAUMA

Outline (con't)

C. Tension/Pneumothorax

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

D. Hemothorax

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

E. Pulmonary Contusion

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

F. Sucking Chest Wounds

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

Critical-Care Emergency Department
Nurse Education Program

THORACIC TRAUMA

Outline (Con't)

V. Injuries to the Cardiovascular system

A. Myocardial laceration/contusion

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

B. Valvular rupture/ventricular rupture

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

C. Aorta and great vessels

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

D. Chordae tendinae/papillary muscle rupture

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

THORACIC TRAUMA

Outline (con't)

VI. Injuries to the gastrointestinal system

A. Esophageal rupture

1. etiology
2. patient profile
3. pathophysiology
4. complications
5. diagnostic studies
6. physical examination findings
7. medical and nursing intervention
8. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Thoracic Trauma

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Critical-Care Emergency Department Nurse Education Program

Thoracic Trauma

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Critical-Care Emergency Department
Nurse Education Program

NEAR-DROWNING

Objectives

Define drowning, near-drowning and secondary drowning

List the classifications of near-drowning

Identify and describe the etiology, pathophysiology, complications, and prognosis associated with near-drowning.

Synthesize the profile of near-drowning victim, in terms of patient history, physical examination findings, and diagnostic study data.

Propose the emergency medical and nursing management of a near-drowning victim, in terms of:

1. treatment procedures/disposition
2. patient/family psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

NEAR DROWNING

Outline

I. Definitions

- A. drowning
- B. near-drowning
- C. secondary drowning

II. Classifications

- A. wet
- B. dry
- C. secondary

III. Pathophysiology

- A. fresh water drowning
- B. salt water drowning
- C. water temperature

IV. Patient Profile

- A. etiology
- B. complications
- C. prognosis
- D. patient history
- E. physical examination findings
- F. diagnostic studies
- G. medical and nursing management
- H. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

NEAR-DROWNING

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MODULE VII

Cardiovascular and Peripheral Vascular Structure/Function/Alteration

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Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR ANATOMY AND PHYSIOLOGY

Objectives

Identify the anatomical structures/functions of the heart and great vessels.

Analyze the cardiac, pulmonic, and systemic hemodynamic circuits.

Discuss the following concepts:

1. the cardiac pump
2. neural control of the heart
3. cardiac output, venous return
4. coronary circulation and cardiac metabolism

Describe techniques for examining the heart and great vessels, in terms of inspection, palpation, percussion, and auscultation.

List normal and abnormal physical examination findings.

Relate abnormal physical examination findings to pathophysiological processes.

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Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR ANATOMY AND PHYSIOLOGY

Outline

I. Anatomical components/location/function of heart and great vessels

  A. Right atrium
  B. Right ventricle
  C. Left atrium
  D. Left ventricle
  E. Semilunar valves
  F. Mitral valves
  G. Tricuspid valve
  H. Papillary muscles
  I. Chordae tendinae
  J. Pericardium
  K. Inferior vena cava, superior vena cava, pulmonary artery and vein, aorta
  L. Coronary arteries/veins
  M. Conduction system

II. Hemodynamic circuits

  A. Cardiac
  B. Pulmonic
  C. Systemic

III. Physiology of the heart and great vessels

  A. Cardiac pump
  B. Neural control
  C. Cardiac output, venous return
  D. Coronary circulation
  E. Cardiac metabolism

IV. Techniques for examining the heart and great vessels, normal and abnormal findings

  A. Inspection
  B. Palpation
  C. Percussion
  D. Auscultation

Critical-Care Emergency Department Nurse Education Program

Cardiovascular Anatomy and Physiology

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Critical-Care Emergency Department
Nurse Education Program

CARDIAC ELECTROPHYSIOLOGY

Objectives

Review the anatomy of the cardiac conduction system.

Discuss the electrophysiological properties of cardiac cells in terms of:

1. Automaticity
2. Rythmicity
3. Inherent discharge rates of sinus, atrial, junctional, and ventricular cells.

Correlate the transmission of an electrical impulse through the normal conduction pathways with the electrical, ionic, and mechanical events in the cardiac cycle.

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Critical-Care Emergency Department
Nurse Education Program

CARDIO ELECTROPHYSIOLOGY

Outline

I. Conduction system

- A. S-A node
- B. A-V node
- C. Bundle of His
- D. Right (1) and left bundle branches (2)
- E. Purkinje fibers

II. Electrophysiological properties of cardiac cells

- A. Automaticity
- B. Rhythmicity
- C. Discharge rates
  - 1. sinus
  - 2. atrial
  - 3. junctional

III. Cardiac cycle

- A. Electrical events
- B. Ionic events
- C. Mechanical events

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Critical-Care Emergency Department
Nurse Education Program

Cardiac Electrophysiology

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Critical-Care Emergency Department
Nurse Education Program

BASIC ELECTROCARDIOGRAM INTERPRETATION

Objectives

Identify the characteristics of a normal electrocardiogram.

Correlate the characteristic EKG waves with the electrical and mechanical events in the cardiac cycle.

Classify the EKG leads as bipolar limb leads, augmented unipolar leads, or precordial unipolar leads.

Analyze the bipolar limb leads, the augmented unipolar leads, and the precordial unipolar leads according to their electrical representation of the heart.

Integrate a discussion of Einthoven's triangle

Display and interpret a 12 - lead EKG on which normal sinus rhythm is recorded.

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Critical-Care Emergency Department
Nurse Education Program

BASIC ELECTROCARDIOGRAM INTERPRETATION

Outline

I. Electrocardiographic waves and their representation of electrical and mechanical events in cardiac cycle

- A. Characteristics of normal EKG
- B. Electrical and mechanical events in cardiac cycle
- C. Components of QRS configuration

II. EKG leads

- A. Classification of leads
  - 1. bipolar
  - 2. augmented unipolar
  - 3. precordial unipolar
- B. Einthoven's triangle
- C. Correlation of leads with their representation of electrical activity in specific areas of the myocardium

III. Interpretation of normal 12 lead EKG

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Critical-Care Emergency Department
Nurse Education Program

Basic Electrocardiogram Interpretation

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Critical-Care Emergency Department
Nurse Education Program

DYSRHYTHMIAS

Objectives

List the common dysrhythmias in each of the following classifications:

- A. Sinus
- B. Atrial
- C. Junctional
- D. Ventricular
- E. A-V Blocks

Compare each dysrhythmia to normal sinus rhythm.

Discuss the pathophysiology indicated by each dysrhythmia.

Propose the etiologies for each dysrhythmia.

Propose the potential complications associated with each dysrhythmia.

Describe the symptomatology and physical examination findings associated with each dysrhythmia.

Plan the emergency medical and nursing management of a patient with each dysrhythmia, in terms of:

1. Diagnostic studies
2. Treatment procedures
3. Psychological support
4. Patient/Family education

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DYSRHYTHMIAS

Outline

I. Normal sinus rhythm

II. Sinus dysrhythmias

- A. Sinus bradycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education
- B. Sinus tachycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

III. Atrial dysrhythmias

- A. Atrial flutter
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

- B. Atrial fibrillation
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

DYSRHYTHMIAS

Outline cont'd

C. Paroxysmal atrial tachycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

D. Premature atrial beats
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

IV. Junctional dysrhythmias

A. Junctional nodal contraction
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

B. Junctional bradycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

C. Junctional tachycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

DYSRHYTHMIAS

Outline cont'd

V. Ventricular dysrhythmias

- A. Ventricular tachycardia
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education
- B. Ventricular fibrillation
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education
- C. Premature ventricular contractions
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

VI. Atrio-ventricular blocks

- A. First degree
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

DYSRHYTHMIAS

Outline cont'd

B. Mobitz I
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

C. Mobitz II
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

D. Third degree
  1. etiology
  2. pathophysiology
  3. complications
  4. symptomatology
  5. physical examination findings
  6. medical and nursing management
  7. diagnostic studies
  8. patient/family support and education

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Dysrhythmias

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Dysrhythmias

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DYSRHYTHMIA INTERPRETATION WORKSHOP

Objectives

Examine EKG tracings and determine the following:

1. rate
2. rhythm
3. P wave (presence, formation, height, duration)
4. P-R interval (duration)
5. QRS (formation, duration)
6. S-T segment (height, duration)
7. T wave (formation, height, duration)

Identify dysrhythmias.

Review the etiology, pathophysiology, and medical and nursing management indicated by dysrhythmias.

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DYSRHYTHMIA INTERPRETATION WORKSHOP

Outline

I. Sinus dysrhythmias
  A. Rate
  B. Rhythm
  C. P wave
  D. P-R interval
  E. QRS
  F. S-T segment
  G. T wave
  H. Etiology
  I. Pathophysiology
  J. Medical/nursing management

II. Atrial dysrhythmias
  A. Rate
  B. Rhythm
  C. P wave
  D. P-R interval
  E. QRS
  F. S-T segment
  G. T wave
  H. Etiology
  I. Pathophysiology
  J. Medical/nursing management

III. Junctional dysrhythmias
  A. Rate
  B. Rhythm
  C. P wave
  D. P-R interval
  E. QRS
  F. S-T segment
  G. T wave
  H. Etiology
  I. Pathophysiology
  J. Medical/nursing management

IV. Ventriculan dysrhythmias
  A. Rate
  B. Rhythm
  C. P wave
  D. P-R interval
  E. QRS
  F. S-T segment
  G. T wave
  H. Etiology

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DYSRHYTHMIA INTERPRETATION WORKSHOP

Outline cont'd

I. Pathophysiology
J. Medical/nursing management

V. Atrio-ventriculan dysrhythmias
  A. Rate
  B. Rhythm
  C. P wave
  D. P-R interval
  E. QRS
  F. S-T segment
  G. T wave
  H. Etiology
  I. Pathophysiology
  J. Medical/nursing management

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Critical-Care Emergency Department
Nurse Education Program

MYOCARDIAL INFARCTION

Objectives

Identify cardiac risk factors and explain their contributions to the evolution of a myocardial infarction.

Describe the pathophysiology and complications associated with myocardial infarction.

Describe the profile of a myocardial infarction patient, in terms of patient history and physical examination findings.

List the diagnostic studies that should be ordered in the emergency department for a patient in this population and predict/explain abnormal results.

Propose emergency medical and nursing goals/management of a myocardial infarction patient, in terms of:

1. treatment procedures
2. psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

MYOCARDIAL INFARCTION

Outline

I. Cardiac risk factors

  A. Hypertension
  B. Diabetes
  C. Smoking
  D. Obesity
  E. Emotional stress
  F. Diet high in animal fat and cholesterol
  G. Family history

II. Pathophysiology of myocardial infarction

III. Complications

IV. Patient profile

  A. History
  B. Physical examination findings
  C. Diagnostic studies

V. Emergency medical and nursing management

  A. Treatments
  B. Monitoring
  C. Disposition

VI. Patient/family psychosocial care and education

Critical-Care Emergency Department
Nurse Education Program

Myocardial Infarction

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Myocardial Infarction

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Critical-Care Emergency Department
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CONGESTIVE HEART FAILURE

Objectives

Describe the etiologies, pathophysiology, and complications associated with congestive heart failure.

Differentiate right-sided heart failure from cor pulmonale.

Describe the profile of a patient in congestive heart failure, in terms of patient history and physical examination findings.

List the diagnostic studies that should be ordered in the emergency department for a patient in this population and predict/explain abnormal results.

Outline emergency medical and nursing goals/management of the patient in congestive heart failure, in terms of:

1. treatment procedures
2. psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

CONGESTIVE HEART FAILURE

Outline

I. Left-sided heart failure

  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Patient profile
  E. Diagnostic studies
  F. Emergency medical and nursing management
  G. Patient/family support and education

II. Right-sided heart failure

  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Patient profile
  E. Diagnostic studies
  F. Emergency medical and nursing management
  G. Patient/family support and education

III. Cor pulmonale

  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Patient profile
  E. Diagnostic studies
  F. Emergency medical and nursing management
  G. Patient/family support and education

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Congestive Heart Failure

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PULMONARY EDEMA

Objectives

Describe the etiology, pathophysiology, and complications associated with pulmonary edema.

Construct the profile of a pulmonary edema patient, in terms of patient history and physical examination findings.

List the diagnostic studies that should be ordered in the emergency department for a patient in this population and predict/explain abnormal results.

Propose emergency medical and nursing care goals/management of a pulmonary edema patient, in terms of:

1. treatment procedures
2. psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

PULMONARY EDEMA

Outline

I. Etiology

- A. Cardiogenic
  - 1. left ventricular failure
  - 2. pulmonary venous hypertension
- B. Non-cardiogenic
  - 1. near-drowning
  - 2. CNS lesions
  - 3. inhalation of noxious substances
  - 4. overdose opiates/narcotics
  - 5. diabetic ketoacidosis

II. Pathophysiology

- A. Cardiogenic
  - 1. decreased pumping capability - left heart
  - 2. increased capillary pressure
  - 3. increased circulatory volume
  - 4. increased renal retention
  - 5. decreased renal excretion
- B. Non-cardiogenic
  - 1. damage to alveolar/capillary membrane
  - 2. increased permeability

III. Complications

- A. Respiratory insufficiency
- B. Respiratory failure
- C. Dysrhythmias

IV. Patient profile

- A. History
- B. Physical examination
- C. Diagnostic studies
  - 1. chest x-ray
  - 2. ABG's
  - 3. EKG
  - 4. BUN
  - 5. CBC
  - 6. electrolytes

PULMONARY EDEMA Cont'd

Outline

V. Medical and nursing management

  A. Cardiogenic
    1. high fowlers
    2. alcohol inhalation
    3. intravenous therapy
    4. rotating tourniquets
    5. medications
      a. morphine
      b. diuretics
      c. digitalis
      d. aminophylline
    6. vital signs
    7. reassurance
    8. constant reassessment
  B. Non-cardiogenic
    1. diagnosis and treat underlying cause
    2. vital signs
    3. reassurance
    4. constant reassessment

VI. Patient/family support and education

Critical-Care Emergency Department
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Pulmonary Edema

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Critical-Care Emergency Department
Nurse Education Program

CARDIOGENIC SHOCK

Objectives

Describe the etiologies, pathophysiology, complications, mortality rate, and prognosis associated with cardiogenic shock.

Describe the profile of a patient in cardiogenic shock, in terms of patient history and physical examination findings.

List the diagnostic studies that should be ordered in the emergency department for a patient in this population and predict/explain abnormal results.

Propose emergency medical and nursing goals/management of a patient in cardiogenic shock, in terms of:

1. treatment procedures
2. psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

CARDIOGENIC SHOCK

Outline

I. Definition

II. Etiology

- A. Myocardial infarction
- B. Cardiac tamponade
- C. Pulmonary embolus

III. Pathophysiology of pump failure

IV. Complications

- A. Disseminating Intravascular Coagulation (DIC)
- B. Adult Respiratory Distress Syndrome (ARDS)

V. Prognosis/mortality rate

VI. Patient profile

- A. History
- B. Physical examination findings
- C. Diagnostic studies
  - 1. ABG's
  - 2. EKG
  - 3. others

VII. Emergency medical and nursing management

- A. Principles
- B. Treatments
- C. Monitoring
- D. Patient/family support and education

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Critical-Care Emergency Department
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Cardiogenic Shock

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Critical-Care Emergency Department
Nurse Education Program

Cardiogenic Shock

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Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR PHARMACOKINETICS

Objectives

Categorize cardiovascular drugs as:

1. Sympathomimetic/sympatholytic agents
2. Parasympatholytic agents
3. Cardiotonic agents
4. Antihypertensive agents
5. Antiarrythmic agents
6. Others --- Nitrates

Relate the pharmacological actions of these agents to the following concepts:

1. The cardiac, pulmonic, and systemic hemodynamic circuitry
2. The cardiac conduction system
3. The cardiac pump
4. Neural control of the heart, arteries, and veins
5. Cardiac output and venous return
6. Coronary circulation and cardiac metabolism

Identify pathophysiological processes for which these agents would be prescribed in the emergency department.

Discuss the dosage, contraindications, side effects, modes of administration, and nursing implications related to these agents.

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Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR PHARMACOKINETICS

Outline

I. Sympathom-metic agents
  A. Epinephrine
    1. indications
    2. pharmacological actions
    3. dosage
    4. contraindications
    5. side effects
    6. modes of administration
    7. nursing implications

  B. Levophed (nor-epinephrine)
    1. pharmacological actions
    2. pathophysiological process
    3. dosage
    4. contraindications
    5. side effects
    6. modes of administration
    7. nursing implications

  C. Metaraminol (aramine)
    1. pharmacological actions
    2. pathophysiological process
    3. dosage
    4. contraindications
    5. side effects
    6. modes of administration
    7. nursing implications

  D. Isoproteranol (isuprel)
    1. pharmacological actions
    2. pathophysiological process
    3. dosage
    4. contraindications
    5. side effects
    6. modes of administration
    7. nursing implications

  E. Intropin (dopamine)
    1. pharmacological actions
    2. pathophysiological process
    3. dosage
    4. contraindications
    5. side effects
    6. modes of administration
    7. nursing implications

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Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR PHARMACOKINETICS

Outline cont'd

II. Sympatholytic agents
    A. Antihypertensive
        1. Metoprolol (lopressor)
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

        2. Methyldopa (aldomet)
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

        3. Rauwolfia serpentina (reserpine)
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

    B. Cardiac
        1. Bretylium
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

        2. Inderol
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR PHARMACOKINETICS

Outline cont'd

III. Parasympatholytic
    A. Cardiac
        1. Atropine
            a. pharmacological actions
            b. pathophysiological process
            c. dosage
            d. contraindications
            e. side effects
            f. modes of administration
            g. nursing implications

IV. Cardiotonic
    A. Digitalis
        1. pharmacological actions
        2. pathophysiological process
        3. dosage
        4. contraindications
        5. side effects
        6. modes of administration
        7. nursing implications

V. Antihypertensive
    A. Hyperstat
        1. pharmacological actions
        2. pathophysiological process
        3. dosage
        4. contraindications
        5. side effects
        6. modes of administration
        7. nursing implications

    B. Thiazides
        1. pharmacological actions
        2. pathophysiological process
        3. dosage
        4. contraindications
        5. side effects
        6. modes of administration
        7. nursing implications

VI. Antiarrythmic agents
    A. Pronestyl
        1. pharmacological actions
        2. pathophysiological process
        3. dosage
        4. contraindications

Critical-Care Emergency Department
Nurse Education Program

CARDIOVASCULAR PHARMACOKINETICS

Outline cont'd

      5. side effects
      6. modes of administration
      7. nursing implications

   B. Lidocaine
      1. pharmacological actions
      2. pathophysiological process
      3. dosage
      4. contraindications
      5. side effects
      6. modes of administration
      7. nursing implications

VII. Others
   A. Nitroglycerin
      1. pharmacological actions
      2. pathophysiological process
      3. dosage
      4. contraindications
      5. side effects
      6. modes of administration
      7. nursing implications

   B. Sodium bicarbonate
      1. pharmacological actions
      2. pathophysiological process
      3. dosage
      4. contraindications
      5. side effects
      6. modes of administration
      7. nursing implications

   C. Morphine
      1. pharmacological actions
      2. pathophysiological process
      3. dosage
      4. contraindications
      5. side effects
      6. modes of administration
      7. nursing implications

   D. Calcium chloride
      1. pharmacological actions
      2. pathophysiological process
      3. dosage
      4. contraindications
      5. side effects
      6. modes of administration
      7. nursing implications

Critical-Care Emergency Department Nurse Education Program

Cardiovascular Pharmacokinetics

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Cardiovascular Pharmacokinetics

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Critical-Care Emergency Department
Nurse Education Program

CARDIAC PACEMAKERS

Objectives

Define artificial cardiac pacemaker.

Discuss the history of cardiac pacemaking.

Identify types of pacing in terms of method of pacing, route of insertion, myocardial insertion site.

Identify the types of temporary pacing wires and generators.

Explain the indications for temporary pacemaker insertion in the emergency department.

Describe the techniques of temporary pacemaker insertion.

Outline the factors which prevent effective pacing and the complications/ hazards associated with temporary pacemaker insertion.

Analyze the emergent problems with which permanent pacemakers may be associated.

Critical-Care Emergency Department
Nurse Education Program

CARDIAC PACEMAKERS

Outline

I. Definition of artificial cardiac pacemakers

II. History
  - A. 1819
  - B. 1930
  - C. 1952
  - D. 1957
  - E. 1960
  - F. 1961

III. Types of pacing
  - A. Temporary
    - 1. external
    - 2. transthoracic
    - 3. direct

  - B. Permanent
    - 1. direct

IV. Pacing wires
  - A. Unipolar
    - 1. temporary
    - 2. permanent

  - B. Bipolar

V. Generators
  - A. External
  - B. Internal
    - 1. mercury-zinc batteries
    - 2. lithium batteries
    - 3. nuclear powered
    - 4. piezoelectric
    - 5. biological

VI. Indications for temporary pacemakers
  - A. Prolonged Stokes-Adams attacks
  - B. Myocardial infarction associated with
    - 1. symptomatic 2° or 3° A-V block
    - 2. acute bifasicular blocks
    - 3. severe bradycardias

  - C. Atrial asystole
  - D. Ventricular asystole

VII. Techniques of temporary pacemaker insertion
  - A. Temporary external cardiac pacemaker

CARDIAC PACEMAKERS

Outline cont'd

- B. Temporary direct transvenous cardiac pacing
- C. Temporary transthoracic pacing
- D. Temporary direct epicardial cardiac pacing

VIII. Factors in improper pacer function
- A. Component failure
- B. Improper interfacing between host and pacer system
- C. Physiological changes in heart

IX. Complications with temporary pacemaker insertion

- B. Infection of phlebitis
- C. Pulmonary air embolism
- D. Ventricular irritability
- E. Myocardial perforation
- F. Pericardial tamponade
- G. Entanglement of electrode
- H. Pulmonary emboli
- I. Fractured electrode fragments
- J. Electrical stimulation of non-cardiac sites
- K. Endocarditis

X. Emergent problems - permanent pacemaker
- A. Failure to capture
- B. Failure to sense QRS complex
- C. Disconnected wires

Critical-Care Emergency Department
Nurse Education Program

Cardiac Pacemakers

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Critical-Care Emergency Department
Nurse Education Program

PERIPHERAL VASCULAR EMERGENCIES/INJURIES

Objectives

Identify and discuss the anatomical structures/functions of peripheral vasculature.

Describe techniques for examining the peripheral vasculature.

List normal peripheral vascular examination findings.

Identify common peripheral vascular injuries and emergencies.

Describe the mechanisms of injury or etiologies, pathophysiology, complications, and abnormal physical examination findings associated with peripheral vascular injuries and emergencies.

Propose emergency medical and nursing management of each population of patients, in terms of:

1. diagnostic procedures
2. treatment procedures
3. disposition
4. patient/family psychological support
5. patient/family education

Critical-Care Emergency Department
Nurse Education Program

PERIPHERAL VASCULAR EMERGENCIES/INJURIES

Outline

I. Anatomy of arteries

II. Anatomy of veins

III. Anatomy of arterial tree

IV. Anatomy of venous tree

V. Profile of patient with arterial dysfunction

  A. History
  B. Physical exam
  C. Common diagnostic tools and findings
    1. arteriogram
    2. doppler flow studies
    3. 5 p's

VI. Profile of patient with venous dysfunction

  A. History
  B. Physical exam
  C. Common diagnostic tools and findings
    1. venogram
    2. phlebogram

VII. Common peripheral vascular injuries/emergencies

  A. Arterial
    1. penetrating injuries
      a. etiology
      b. pathophysiology
      c. complications
      d. techniques of examination/abnormal findings
      e. diagnostic studies
      f. medical/nursing management
      g. patient/family support and education
    2. blunt trauma
      a. etiology
      b. pathophysiology
      c. complications
      d. techniques of examination/abnormal findings
      e. diagnostic studies
      f. medical/nursing management
      g. patient/family support and education

PERIPHERAL VASCULAR EMERGENCIES/INJURIES Cont'd

Outline

3. fracture-associated injuries
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education
4. embolus/acute thrombosis
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education
5. aneurysm
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education

B. Venous
1. penetrating injuries
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education
2. blunt trauma
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education

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PERIPHERAL VASCULAR EMERGENCIES/INJURIES Cont'd

Outline

3. fracture-associated injuries
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education
4. acute venous obstruction
    a. etiology
    b. pathophysiology
    c. complications
    d. techniques of examination/abnormal findings
    e. diagnostic studies
    f. medical/nursing management
    g. patient/family support and education

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PHERIPHERAL VASCULAR EMERGENCIES/INJURIES

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MODULE VIII

Gastrointestinal Structure/Function/Alteration

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Critical-Care Emergency Department
Nurse Education Program

GASTROINTESTINAL ANATOMY AND PHYSIOLOGY

Objectives

Identify and discuss the anatomical structures/functions of the gastrointestinal tract.

Discuss the following concepts:

1. movement of food through the alimentary tract
2. secretory functions of the alimentary tract
3. digestion and absorption in the gastrointestinal tract

Review techniques for examining the abdomen, in terms of inspection, palpation, percussion, and auscultation.

List normal findings of an abdominal examination and relate these findings to normal gastrointestinal anatomy and physiology.

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Critical-Care Emergency Department
Nurse Education Program

GASTROINTESTINAL ANATOMY AND PHYSIOLOGY

Outline

I. Anatomical structures and their functions

  A. Mouth
  B. Parotid gland
  C. Submaxillary/sublingual glands
  D. Pharynx
  E. Esophagus
  F. Stomach
  G. Liver
  H. Gallbladder
  I. Pancreas
  J. Duodenum
  K. Jejunem
  L. Ileum

II. Techniques of examination of the abdomen

  A. Inspection
  B. Auscultation
  C. Palpation
  D. Percussion

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Critical-Care Emergency Department
Nurse Education Program

Gastrointestinal Anatomy and Physiology

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Critical-Care Emergency Department
Nurse Education Program

ABDOMINAL EMERGENCIES

Objectives

List common abdominal injuries/emergencies.

Identify and discuss the mechanisms of injury, pathophysiology, and complications associated with various types of abdominal injuries.

Describe the etiology, pathophysiology, and complications associated with various abdominal emergencies.

List the diagnostic procedures that should be ordered for patients with abdominal injuries/emergencies.

Synthesize the clinical profile of each population of patients, in terms of patient history, physical examination findings, and diagnostic study data.

Propose the emergency medical and nursing management of each patient population, in terms of:

1. treatment procedures/disposition
2. patient/family psychological support
3. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

ABDOMINAL EMERGENCIES

Outline

I. Gastrointestinal bleeds
  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Diagnostic procedures
  E. Patient profile
    1. history
    2. physical examination findings

  F. Emergency medical and nursing management
  G. Patient/Family support and education

II. Gastrointestinal obstructions
  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Diagnostic procedures
  E. Patient profile

    1. history
    2. physical examination findings

  F. Emergency medical and nursing management
  G. Patient/Family support and education

III. Gastrointestinal inflammations
  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Diagnostic procedures
  E. Patient profile

    1. history
    2. physical examination findings

  F. Emergency medical and nursing management
  G. Patient/Family support and education

IV. Hernias
  A. Etiology
  B. Pathophysiology
  C. Complications
  D. Diagnostic procedures
  E. Patient profile

    1. history
    2. physical examination findings

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Critical-Care Emergency Department
Nurse Education Program

ABDOMINAL EMERGENCIES

Outline cont'd

1. history
2. physical examination findings

F. Emergency medical and nursing management
G. Patient/Family support and education

V. Penetrating injuries
  A. Gunshot wounds
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures
    5. patient profile

      a. history
      b. physical examination findings

    6. emergency medical and nursing management
    7. patient/family support and education

  B. Stab wounds
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostid procedures
    5. patient profile

      a. history
      b. physical examination findings
    6. emergency medical and nursing management
    7. patient/family support and education

  C. Other
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures
    5. patient profile

      a. history
      b. physical examination findings

    6. emergency medical and nursing management
    7. patient/family support and education

VI. Non-penetrating injuries
  A. Blunt injuries
    1. etiology
    2. pathophysiology

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ABDOMINAL EMERGENCIES

Outline cont'd

3. complications
4. diagnostic procedures
5. patient profile
    a. history
    b. physical examination findings
6. emergency medical and nursing management
7. patient/family support and education

B. Crush injuries
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures
    5. patient profile
        a. history
        b. physical examination findings
    6. emergency medical and nursing management
    7. patient/family support and education

C. Blast injuries
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures
    5. patient profile
        a. history
        b. physical examination findings
    6. emergency medical and nursing management
    7. patient/family support and education

D. Seatbelt injuries
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures
    5. patient profile
        a. history
        b. physical examination findings
    6. emergency medical and nursing management
    7. patient/family support and education

E. Ingestion or foreign bodies
    1. etiology
    2. pathophysiology
    3. complications
    4. diagnostic procedures

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Critical-Care Emergency Department Nurse Education Program

Abdominal Emergencies

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Critical-Care Emergency Department
Nurse Education Program

POISONINGS

Objectives

1. Describe the availability of poisonous agents and epidemiology of accidental and intentional poisoning.

2. List the factors used in assessment of the poison exposed patient.

3. Outline emergency medical-nursing first-aid, pre-hospital and hospital care recommendations for the initial management of poison exposures by:

   A. Ingestion
   B. Dermal and occular contact
   C. Inhalation
   D. Venomous bites and stings

4. Describe the utility, appropriateness and role of:

   A. Specific pharmacological antidotes
   B. Fluid therapy
   C. Dialysis
   D. Exchange

   in the treatment of the poisoned patient to hasten removal of the toxic agent from blood and tissues.

5. List common signs and symptoms, route of exposure and specific antidote (if any) for:

   A. Depressants
      Volatile hydrocarbons
      Barbiturates
      Non-barbiturate sedatives
      Alcohol
   B. Stimulants
      Amphetamines
      Cocaines
   C. Narcotics
   D. Hallucinogens
      Phencyclidine
      Anticholinergics
      LSD

6. Formulate a plan to provide patient/family education, psychological support and follow-up.

7. Relate the role of the regional poison control center and emergency department to the care of the poisoned patient.

Critical-Care Emergency Department
Nurse Education Program

POISONINGS

Outline

- I. Defining the Poisoning Problem
  - A. "Poisons"
  - B. Poisoning and Exposures
  - C. Epidemiology: accidental vs. intentional

- II. Assessment of the poisoned patient
  - A. Agent(s), route of exposure(s) and amount
  - B. Time, signs and symptoms since exposure
  - C. Treatment since exposure
  - D. Patient's age and weight
  - E. Laboratory identification
    - 1. clinical laboratory
    - 2. toxicology laboratory (qualitative vs. quantitative analysis)

- III. Initial management of the poisoned patient
  - A. Ingestion
    - 1. Induced emesis
      - a. home remedies - contraindicated
      - b. ipecac syrup
      - c. apomorphine
      - d. emesis contraindications

    - 2. Gastric lavage
      - a. aspiration of gastric content
      - b. wash out

    - 3. Adsorption therapy
      - a. Activated charcoal
        - 1. pediatric 0.5 gm/kg minimum
adult 20-50 gm minimum

        - 2. administration

      - b. "universal-antidote" - contraindicated

    - 4. Cathartic therapy
      - a. Saline cathartics
        - 1. magnesium citrate pediatric 0.5-1 cc/kg
adult 150-200 cc.

        - 2. magnesium (sodium) sulfate pediatric 250 mg/kg as a 10% solution
adult 20 gms. in 180 cc.

        - 3. administration

POISONINGS

Outline cont'd

    5. Dermal and occular
        a. irrigation - dilution
        b. "neutralization" - contraindicated

    6. Inhalation
        a. terminate exposure
        b. supportive, symptomatic therapy

    7. Venomous bites and stings
        a. first aid
        b. specific treatment

IV. Extended management of poisoning
    A. Specific Pharmacologic Antidotes
    B. Fluid therapy
        1. enhanced and ionized diuresis

    C. Dialysis
        1. peritoneal, hemodialysis
        2. hemoperfusion

    D. Exchange transfusion

V. Depressants
    A. Volatile hydrocarbons
        1. signs and symptoms
        2. route of exposure
        3. specific antidote

    B. Barbiturates
        1. signs and symptoms
        2. route of exposure
        3. specific antidote

    C. Non-barbiturates sedatives
        1. signs and symptoms
        2. route of exposure
        3. specific antidote

    D. Alcohol
        1. signs and symptoms
        2. route of exposure
        3. specific antidote

VI. Stimulants
    A. Amphetamines

POISONINGS

Outline cont'd

1. signs and symptoms
2. route of exposure
3. specific antidote

B. Cocaines
1. signs and symptoms
2. route of exposure
3. specific antidote

VII. Narcotics

VIII. Hallucinogens
A. Phencyclidene
1. signs and symptoms
2. route of exposure
3. specific antidote

B. Anticholinergics
1. signs and symptoms
2. route of exposure
3. specific antidote

C. LSD
1. signs and symptoms
2. route of exposure
3. specific antidote

IX. Psycho-social aspects of poisoning and poison prevention
A. Patient-family support
B. Poison prevention and education

Poison
300 Longwood Avenue
Boston, MA o2115

Self-Addressed, Stamped,
Business Sized Envelope

C. Regional poison control centers

Massachusetts Poison Information Center

Greater Boston Area	232-2120
Other Massachusetts Areas	1-88-682-9211

James M. Easom, Pharm.D.

Critical-Care Emergency Department
Nurse Education Program

POISONINGS

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MODULE IX

Genito-Urinary Structure/Function/Alteration

#_________

Critical-Care Emergency Department
Nurse Education Program

MALE GENITAL/MALE AND FEMALE UROLOGICAL TRAUMA AND EMERGENCIES

Objectives

Identify and discuss the anatomical structures/functions of the genito-urinary system.

List common genito-urinary injuries/emergencies.

Describe the common mechanisms of genito-urinary injuries, the pathophysiology, and complications.

Describe the etiology, pathophysiology, and complications of other male genital and male/female urological emergencies.

List the abnormal physical examination findings associated with various types of genito-urinary injuries/emergencies.

Propose the emergency medical and nursing management of patients with genito-urinary injuries/emergencies, in terms of:

1. diagnostic procedures
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

#________

Critical-Care Emergency Department
Nurse Education Program

MALE GENITAL/MALE AND FEMALE UROLOGICAL TRAUMA AND EMERGENCIES

Outline

I. Structure and function
    A. Kidneys
    B. Ureter
    C. Bladder
    D. Urethra
        1. female
        2. male

II. Common injuries/emergencies
    A. Traumatic
        1. Renal pedicle injury
            a. etiology
            b. pathophysiology
            c. complications
            d. physical examination findings
            e. diagnostic studies
            f. emergency medical and nursing management
            g. patient/family support & education

        2. Renal parenchymal injury
            a. etiology
            b. pathophysiology
            c. complications
            d. physical examination findings
            e. diagnostic studies
            f. emergency medical and nursing management
            g. patient/family support & education

        3. Ureteral injury
            a. etiology
            b. pathophysiology
            c. complications
            d. physical examination findings
            e. diagnostic studies
            f. emergency medical and nursing management
            g. patient/family support & education

        4. Bladder injury
            a. etiology
            b. pathophysiology
            c. complications
            d. physical examinations findings
            e. diagnostic studies
            f. emergency medical and nursing management
            g. patient/family support & education

#

MALE GENITAL/MALE AND FEMALE UROLOGICAL TRAUMA AND EMERGENCIES

Outline

5. Urethral injury
    a. etiology
    b. pathophysiology
    c. complications
    d. physical examination findings
    e. diagnostic studies
    f. emergency medical and nursing management
    g. patient/family support and education

6. Testicular injury
    a. etiology
    b. pathophysiology
    c. complications
    d. physical examination findings
    e. diagnostic studies
    f. emergency medical and nursing management
    g. patient/family support and education

7. External genitalia injury
    a. etiology
    b. pathophysiology
    c. complications
    d. physical examination findings
    e. diagnostic studies
    f. emergency medical and nursing management
    g. patient/family support and education

B. Non-traumatic
1. Torsion of testis
    a. etiology
    b. pathophysiology
    c. complications
    d. physical examination findings
    e. diagnostic studies
    f. emergency medical and nursing management
    g. patient/family support and education

2. Inflammation
    a. etiology
    b. pathophysiology
    c. complications
    d. physical examination findings
    e. diagnostic studies
    f. emergency medical and nursing management
    g. patient/family support and education

3. Foreign body

    a. etiology
    b. pathophysiology

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MALE GENITAL/MALE AND FEMALE UROLOGICAL TRAUMA AND EMERGENCIES

Outline cont'd

c. complications
d. physical examination findings
e. diagnostic studies
f. emergency medical and nursing management
g. patient/family support and education

4. Obstruction
   a. etiology
   b. pathophysiology
   c. complications
   d. physical examination findings
   e. diagnostic studies
   f. emergency medical and nursing management
   g. patient/family support and education

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Critical-Care Emergency Department Nurse Education Program

Male Genital/Male and Female Urological Trauma and Emergencies

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Critical-Care Emergency Department
Nurse Education Program

OBSTETRICAL AND GYNECOLOGICAL EMERGENCIES

Objectives

Identify and discuss the anatomical structures/functions of the female reproductive system.

Describe the etiologies, pathophysiology, and complications associated with common obstetrical and gynecological emergencies, such as:

1. incomplete abortion
2. ruptured ectopic pregnancy
3. ruptured ovarian cyst
4. emergency delivery
5. premature labor
6. vaginal bleeding
7. P.I.D.

List the diagnostic procedures that should be ordered for each patient population.

Synthesize the clinical profile of each patient population, in terms of patient history, physical examination findings, and diagnostic study data.

Propose the emergency medical and nursing management of each patient population, in terms of:

1. treatment procedures
2. disposition/follow-up
3. patient/family psychological support
4. patient/family education

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Critical-Care Emergency Department
Nurse Education Program

OBSTETRICAL AND GYNECOLOGICAL EMERGENCIES

Outline

I. Structure/function of the female reproductive system
    A. Ovary
    B. Fallopian tubes
    C. Uterus
    D. Vagina
    E. Glans clitoris
    F. Vulva
    G. Urethral meadus
    H. Vaginal orifice
    I. Anus

II. Obstetrical/gynecological emergencies
    A. Incomplete abortion
        1. etiology
        2. pathophysiology
        3. complications
        4. patient profile
        5. physical examination findings
        6. diagnostic studies
        7. emergency medical and nursing management
        8. patient/family support and education

    B. Ruptured ectopic pregnancy
        1. etiology
        2. pathophysiology
        3. complications
        4. patient profile
        5. physical examination findings
        6. diagnostic studies
        7. emergency medical and nursing management
        8. patient/family support and education

    C. Ruptured ovarian cyst
        1. etiology
        2. pathophysiology
        3. complications
        4. patient profile
        5. physical examination findings
        6. diagnostic studies
        7. emergency medical and nursing management
        8. patient/family support and education

    D. Emergency delivery
        1. etiology/rationale

OBSTETRICAL AND GYNECOLOGICAL EMERGENCIES

Outline cont'd

2. patient profile
3. physical examination findings
4. emergency medical and nursing management
5. complications
6. patient/family support and education

E. Premature labor
   1. etiology
   2. pathophysiology
   3. complications
   4. patient profile
   5. physical examination findings
   6. diagnostic studies
   7. emergency medical and nursing management
   8. patient/family support and education

F. Vaginal bleeding
   1. etiology
   2. pathophysiology
   3. complications
   4. patient profile
   5. physical examination findings
   6. diagnostic studies
   7. emergency medical and nursing management
   8. patient/family support and education

G. PID
   1. etiology
   2. pathophysiology
   3. complications
   4. patient profile
   5. physical examination findings
   6. diagnostic studies
   7. emergency medical and nursing management
   8. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Obstetrical and Gynecological Emergencies

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MODULE X

Musculoskeletal Structure/Function/Alteration

#

Critical-Care Emergency Department
Nurse Education Program

Orthopedic Injuries*

Objectives

Identify and discuss the anatomical structures/functions of the musculoskeletal system.

Describe techniques for examining the musculoskeletal system.

List normal musculoskeletal physical examination findings.

List common orthopedic injuries and identify the mechanisms of injury with which they are associated.

Describe the pathophysiology, complications, and abnormal physical examination findings associated with various orthopedic injuries.

Propose the emergency medical and nursing management of patients with orthopedic injuries, in terms of:

1. diagnostic procedures
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

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* Head injuries, facial trauma, spinal cord injuries, and thoracic trauma are addressed exclusively in other C.E.D.N.E.P. lectures.

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Critical-Care Emergency Department
Nurse Education Program

ORTHOPEDIC INJURIES

Outline

I. Anatomical structure/function
  A. Bones
  B. Joints
  C. Muscles
  D. Tendons
  E. Ligaments
  F. Cartilage

II. Techniques of examination
  A. History
  B. Inspection
  C. Palpation

III. Common orthopedic injuries
  A. Soft tissue
  B. Fracture
  C. Dislocation

IV. Soft tissue
  A. Sprain
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  B. Strain
    1. mechanism of injury
    2. pathophysiology
    2. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  C. Wringer
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

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ORTHOPEDIC INJURIES

Outline cont'd

V. Fractures/Dislocations
  A. Shoulder
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  B. Clavicle
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  C. Elbow
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  D. Wrist
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

  E. Hand
    1. mechanism of injury
    2. pathophysiology
    3. complications
    4. physical examination findings
    5. diagnostic studies
    6. emergency medical and nursing management
    7. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

ORTHOPEDIC INJURIES

Outline cont'd

F. Fingers
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

G. Hip
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

H. Femur
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

I. Knee
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

J. Tibia/Fibula
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

K. Ankle
   1. mechanism of injury
   2. pathophysiology

ORTHOPEDIC INJURIES

Outline cont'd

3. complications
4. physical examination findings
5. diagnostic studies
6. emergency medical and nursing management
7. patient/family support and education

K. Foot
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

L. Toes
   1. mechanism of injury
   2. pathophysiology
   3. complications
   4. physical examination findings
   5. diagnostic studies
   6. emergency medical and nursing management
   7. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

Orthopedic Injuries

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Critical-Care Emergency Department
Nurse Education Program

Orthopedic Injuries

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MODULE XI

Integumentary Structure/Function/Alteration

#________

Critical-Care Emergency Department
Nurse Education Program

MANAGEMENT OF THE BURN PATIENT

Objectives

Calculate the extent of burns.

List the main causes of burns.

Differentiate partial and full thickness burns.

Discuss the criteria for estimating the severity of burns.

Discuss the pathophysiology of the burn patient.

Compare and contrast the management of moderate vs. severe burns.

Discuss current methods of treatment.

Identify the major complications of burns.

Discuss preparation of the burn patient for transfer to a teritary facility.

Joan E. Dunn

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Critical-Care Emergency Department
Nurse Education Program

MANAGEMENT OF THE BURN PATIENT

Objectives

Calculate the extent of burns.

List the main causes of burns.

Differentiate partial and full thickness burns.

Discuss the criteria for estimating the severity of burns.

Discuss the pathophysiology of the burn patient.

Compare and contrast the management of moderate vs. severe burns.

Discuss current methods of treatment.

Identify the major complications of burns.

Discuss preparation of the burn patient for transfer to a teritary facility.

Joan E. Dunn

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Critical-Care Emergency Department
Nurse Education Program

MANAGEMENT OF THE BURN PATIENT

Outline

I. Extent of burns
  A. Rule of nines
  B. Lund Brower

II. Causes of burns
  A. Electrical
  B. Chemical
  C. Thermal

III. Partial thickness burns
  A. First degree
  B. Second degree

IV. Full thickness burns
  A. Third Degree

V. Estimate severity of burn
  A. Body part
  B. Age
  C. Depth
  D. Size of burn
  E. Medical history

VI. Pathophysiology of the burn patient
  A. Hyperpermeability of capillary walls
  B. Massive loss of plasma
  C. Hemoconcentration
  D. Decreased cardiac output
  E. Acid-base imbalance
  F. Hypothermia
  G. Clotting factor dysfunction

VII. Emergency medical and nursing management
  A. Moderate burns
    1. Fluid replacement
    2. Dressings
    3. Medications
      a. topical
      b. systemic
    4. Monitoring
    5. Patient/Family support and education

  B. Severe burns
    1. Fluid replacement
    2. Dressings
    3. Medications
      a. topical
      b. systemic

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MANAGEMENT OF THE BURN PATIENT

Outline cont'd

4. Monitoring

VIII. Complications
- A. Contratures
- B. Shock/Third spacing
- C. Ileus
- D. Ulcers
- E. Infection
- F. Renal failure

Critical-Care Emergency Department
Nurse Education Program

MANAGEMENT OF THE BURN PATIENT

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Critical-Care Emergency Department
Nurse Education Program

MANAGEMENT OF THE BURN PATIENT

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MODULE XII

Multiple Trauma

MULTIPLE TRAUMA

Objectives

Define multiple trauma.

Identify two classifications of trauma.

Classify multiple trauma by means of two general mechanisms.

Identify mechanisms of blunt trauma and examine their effects on specific (six) body systems.

Identify factors influencing extent of gunshot damage.

Discuss the dynamics of bullet wounds and examine their effects on specific (six) body systems.

Explore physiologic and psychosocial sequelae of survivors of multiple trauma.

Explore implications for nursing research that are related to multiple trauma patients.

Propose and demonstrate a systematic nursing assessment for the multiply injured patient.

Propose a method of documentation that promotes the effective and efficient transcription and communication of patient history, physical examination findings, diagnostic study data, treatment procedures, and other information related to the patient's confinement in the emergency department.

Discuss the preparation for managing a multiple trauma patient, in terms of:

1. physical environment
2. equipment
3. protocols
4. manpower
5. other resources

Synthesize a plan of care for the multiple trauma patient, in relation to the following items:

1. diagnostic procedures
2. treatment procedures
3. disposition/follow-up
4. patient/family psychological support
5. patient/family education

(as derived from CEDNEP lectures related to trauma of individual systems)

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Critical-Care Emergency Department
Nurse Education Program

MULTIPLE TRAUMA

Outline

I. Definition

II. Classification

III. Blunt injury
    A. Head
        1. Scalp
            a. function
            b. mechanisms of injury
            c. effects

        2. Skull
            a. function
            b. mechanisms of injury
            c. effects

        3. Meninges
            a. function
            b. mechanisms of injury
            c. effects

        4. Brain
            a. function
            b. mechanisms of injury
            c. effects

    B. Spinal cord
        1. anatomy
        2. injuries
        3. effects

    C. Chest
        1. Ribs
            a. anatomy
            b. injuries
            c. effects

        2. Sternum
            a. anatomy
            b. injuries
            c. effects

        3. Pleural space
            a. anatomy
            b. injuries
            c. effects

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Critical-Care Emergency Department
Nurse Education Program

MULTIPLE TRAUMA

Outline cont'd

4. Lungs
    a. anatomy
    b. injuries
    c. effects

5. Diaphragm
    a. anatomy
    b. injuries
    c. effects

6. Heart
    a. anatomy
    b. injuries
    c. effects

7. Great vessels
    a. anatomy
    b. injuries
    c. effects

D. Abdomen
    1. anatomy
    2. injuries
    3. effects

E. Genitourinary
    1. anatomy
    2. injuries
    3. effects

F. Limbs
    1. anatomy
    2. injuries
    3. effects

IV. Penetrating injury
    A. Gunshot wounds
        1. factors in extent of damage
        2. wounding mechanisms
        3. shotgun wounds

    B. Stab wounds
        1. factors in extent of damage

V. Trauma recovery unit

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Critical-Care Emergency Department
Nurse Education Program

MULTIPLE TRAUMA

Outline (con't)

VI. Systematic Nursing Assessment
  A. general assessment
  B. primary assessment
  C. secondary assessment

VII. Documentation
  A. SOAP

VIII. Management of the multiple trauma patient
  A. physical environment
  B. equipment
  C. protocols
  D. manpower
  E. other resources

IX. Plan of care
  A. ABC
  B. physical assessment
  C. fluid replacement
  D. diagnostic procedures
  E. constant evaluation
  F. emergency management
  G. patient/family support and education
  H. documentation
  I. disposition

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MULTIPLE TRAUMA

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MODULE XIII

Shock

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Critical-Care Emergency Department
Nurse Education Program

SHOCK

Objectives

List the various types of shock.

Discuss the etiologies, pathophysiology, and complications, associated with hypovolemic, anaphylactic, septic, and neurogenic shock.*

Describe the profiles of patients who develop each type of shock, in terms of patient history, physical examination, and diagnostic laboratory findings.

Propose emergency medical and nursing/goals/interventions for patients who develop each type of shock, in terms of:

1. treatment procedures
2. psychological support
3. patient/family education

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*Discussion of Cardiogenic Shock is addressed during another lecture.

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Critical-Care Emergency Department
Nurse Education Program

SHOCK

Outline

I. Classifications/Definitions

- A. hypovolemic
- B. anaphylactic
- C. septic
- D. neurogenic

II. Hypovolemic

- A. etiology
- B. pathophysiology
- C. complications
- D. patient profile
- E. physical examination
- F. studies
- G. patient history
- H. emergency medical and nursing management
- I. patient/family support and education

III. Anaphylactic Shock

- A. etiology
- B. pathophysiology
- C. complications
- D. patient profile
- E. physical examination
- F. studies
- G. patient history
- H. emergency medical and nursing management
- I. patient/family support and education

IV. Septic Shock

- A. etiology
- B. pathophysiology
- C. complications
- D. patient profile
- E. physical examination
- F. studies
- G. patient history
- H. emergency medical and nursing management
- I. patient/family support and education

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Critical-Care Emergency Department
Nurse Education Program

SHOCK

Outline (con't)

V. Neurogenic Shock

- A. etiology
- B. pathophysiology
- C. complications
- D. patient profile
- E. physical examination
- F. studies
- G. patient history
- H. emergency medical and nursing management
- I. patient/family support and education

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